

Bob Cooper's

JUNE 15 2005

SatFACTS

MONTHLY



Reporting on "The World" of satellite television in the Pacific and Asia

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A
Boulos"**

**Tin Whisker
"plus"
strikes B1**

**Video on
the web
"explodes"**

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- ✓ Latest Hardware News
- ✓ Sky Pacific's IRD
- ✓ Observer Reports

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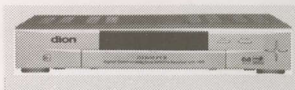
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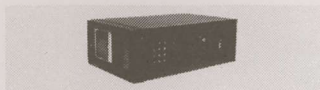
Specials this month

DT800PVR - Digital Receiver



- 40Gb HDD = 40hr Record time
 - 2x CI CAM Slots
 - DiSEqC 1.2
 - **Fibre Optic Output Capability**
- Price: \$390 AUD + GST

Satlook - Signal Meter



- Digital, Analogue and combined versions available
 - A must for the professional
 - Simple menus and functions
- Price: Phone up for Quote

DreamMAX - DT470



- Irdeto embedded
 - 4900 Channel Memory
 - DiSEqC 1.2
 - User Friendly
- Price: \$200 AUD + GST

Everything? Yeah we got

LNB

- Zinwell C Band
- Zinwell KU Band
- MTI C Band, Superhigh gain
- One Cable Solution - CBand
- Dual Output KU 11300 MHz

Positioners

- Superjack EZ-2000
- Superjack DP-6600, DiSEqC 1.0/1.2
- Technosat DP-200, DiSEqC 1.2
- Manual Actuator Driver - EW101
- SAP 2000: 99 Memory positioner

Actuators

- Superjack HARL-3618, 18" Actuator
- Superjack HARL-3624, 24" Actuator
- Superjack DG-120, H/H Mount

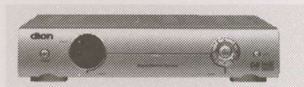
Receivers

- SuperNET CA, Irdeto Embedded
- Success, Free-to-Air
- Dion DT-370, Free-to-Air Receiver
- Dion 2x CI, Hardware AllCAMed
- ChangHong, Mediaguard embedded
- SuperNET Terrestrial, DVB-T
- Phoenix High Definition STB

Dish and mounts

- 1.2, 1.8m Solid Prime focus
- 45, 60, 65, 85cm KU dish Offset
- 2.13m, 2.27m, 2.4m, 3.0m, 3.07m, 3.7m, Mesh Dish, Light and Heavy Duty PSI and JOYSAT Available
- CBand Wall brackets
- CBand Concrete mounts and stands
- KU Gutter mounts
- KU Wall mounts
- KU Float mounts
- KU Tinroof mount

Dion 818 CI - Digital Satellite Receiver



- Slim Size and User Friendly OSD
- 2x CI (Common Interface) slots
- Hardware AllCAMed

SuperJack H-H Actuator, DiSEqC embedded



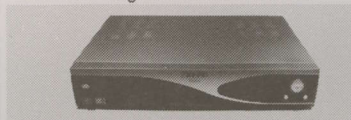
- All it takes is one coaxial cable....
- **NO MOTOR CABLE REQUIRED**
- **DiSEqC Positioner EMBEDDED!**

Supernet - Terrestrial DVB-T



- Digital Terrestrial Receiver
- Slim Design
- High Quality Picture
- Easy to install and use

Dion316 - Digital Satellite Receiver



- FTA + Software Patched
 - 4000 Channel Memory
 - DiSEqC 1.0/1.2 Compatible
- Price: \$170AUD + GST

Switches and Splitters

- 2 and 4 way DiSEqC switches
- 0/22kHz switches
- 2 and 4 way cable splitters
- V/H Multiswitch
- 0/12V Switch

Cable - 15m, 25m, 305m packs

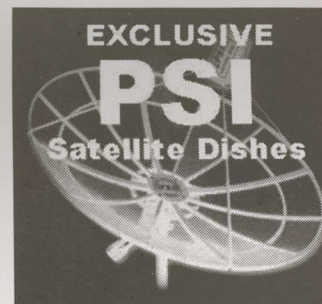
- RG6-U Dual Shield Coaxial Cable
- RG6-U Quad Shield Coaxial Cable
- Cat5 Actuator Cable

Plugs

- F Connectors, Screw or Clamp types
- Cable joiners
- AV Splitters
- Cable Strippers
- Cable clampers
- Various other joiners and accessories e.g. RCA/SCART cables and converters

Misc

- 2.4GHz AV Sender
- Irdeto 2.06B CAMs, Viaccess CAMs
- Satlook Digital Signal Meter
- Satlook Analogue Signal Meter
- Satlook Digital + Analogue combo
- Satellite finders
- Angle level measure instrument
- High Quality Compasses



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This publication is dedicated to the premise that as we enter the 21st century, ancient 20th century notions concerning borders and boundaries no longer define a person's horizon. In the air, all around you, are microwave signals carrying messages of entertainment, information and education. These messages are available to anyone willing to install appropriate receiving equipment and, where applicable, pay a monthly or annual fee to receive the content of these messages in the privacy of their own home. Welcome to the 21st century - a world without borders, a world without boundaries.

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our ELEVENTH year!

COOP'S COMMENT

Perspective. Most of us pay fairly close attention to events and announcements that involve our immediate neighbourhood, less attention to events occurring over further distances. That's one of the benefits of satellite reception - for all that you can receive, it is 'local' to you if not in content.

Perspective concerning the content of a satellite service is more elastic. One viewer's enamour with sport is another's passion for news. If the sports quits, for whatever reason, the news fan hardly notices.

So when Optus B1 satellite lost its mainline computer functions on May 25 (and it may have begun on the 23rd, in fact), each user affected by the satellite glitch had their own perspective of concerns. B1 is 'home' for a number of important services of which the most commercial is Sky New Zealand's package of video and radio channels, now serving something more than 500,000 homes. Sky rushed out official statements acknowledging the failure (some said it was 7 minutes, others said 17) which we detail on page 14 here. The bottom line was mostly encouraging - they cited statistics about prior Hughes 601 mainline computer failures, pointed out the backup computer (which took over after ground controllers assumed temporary flight control) is functioning 'normally' and assured satellite viewers that if the backup controller should also fail, during the current string of Lions Rugby test telecasts, "within minutes terrestrial TV channel TV3 will be carrying the Rugby telecasts as a replacement to a failed B1 service". That of course is good news for those who cannot live without access to Rugby. Equally, it won't do anything for those who watch news, movies or other programming through Sky.

In orbit failures are rare - *except* with the Hughes 601 series of birds. Sky, attempting to put a 'good news spin' on the failure, cites statistics involving the mainline computer failure rate. This is also a 'neighbourhood' thing because 601 failures (see <http://nepp.nasa.gov/whisker/failures/>) involve a much broader scope than computer failures. Citing only the statistics for the computer problems is a bit like saying, "only 0.004% of Ford Torinos have a premature battery failure", ignoring the 10.0% that experience failure of other (non-battery) electrical circuits.

B1 is more than Sky NZ's sports coverage (although without it, the service would be far less successful). B1 is also about Australia's 7 Central, SBS (12 TV programme services), ABC (10 TV channels), and the trial-test-someday-important? TVNZ package (presently 7 TV channels). And dozens of itinerant feeds. Oh yes - and the backbone for Australia's air traffic system!

About which? Australia's primary Civil Aviation Authority network, allowing individual airports to talk with other facilities, loops through B1. And B3 - by the way - a form of redundancy protecting against solar outages and system failures such as presently looms for B1.

If Sky NZ was in a gambling mood, it would simply accept the loss of the primary computer and, citing statistics, tough it out until D1 became available at 160E sometime during the first quarter of 2006. Other options? Transfer Sky NZ to another satellite in another location (NSS-5 is an example, although not a good one). Moving away from 160E would require field hands repointing more than 500,000 existing dishes - twice. Once for the interim satellite, again in 2006 when D1 appears. If someone was really good, doing 20 a day, 100 per week, it would take 5000 man-weeks to repoint one time - **500 guys 10 weeks!** During that exercise, total chaos and greatly reduced income for Sky while aerialists raced from site to site to 'turn people back on'. Obviously not a suitable solution.

To avoid moving 500,000 antennas (twice), you bring the mountain to 160E; fly in a replacement satellite, nudge it up close to B1, do magic transferring of the channels (for Sky and the other users cited) and then get B1 out of the way. This is a delicate procedure, and where does the replacement bird come from? The most obvious 'in-house' answer is B3, shut down at 152E and flown east to 160. While it is 'off' nobody presently on B3 has service. Elapsed time between B3 shutting down, moving, transferring traffic, and then sending B1 back to B3's 152E location where - for as long as it works - 'standing in'? Some answers appear on p. 14 here but not for UBI and other present users of B3. For them, a 10-14 day shut down. *Stay tuned!*

In Volume 11 ♦ Number 130

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America's battle to transition for DVB-T (Tim Alderman) -p. 8

B1 Failure: Tin Whiskers again? -p. 14

Ignore internet video at your own risk - p. 18

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Supplemental Data -p. 26; With The Observers -p. 27

-On the cover-

Fine tuning the feed on a 7m 'reclaimed' dish - getting to the feed is a challenge!



June 15, 2005

PROGRAMMER
PROGRAMMING
PROMOTION

UPDATE

JUNE 15, 2005

MDU vs. full DVB-T?

"I agree with your comments about MDUs and the reticulation options for DVB-T signals. I believe the most cost effective way is to install a set of 5 DVB-T STBs, convert the signals to PAL as the same channels appear in analogue. However, what is needed is reasonable quality modulators, with stereo, preferably VSB (single not double sideband), that work on the original VHF frequencies (or UHF as with SBS). In general, those that are presently available (eg. Hills) only seem to output in the UHF range. Indeed, this approach is likely to be used in many single residence homes once analogue is turned off. After all, many homes have 5 or more analogue TV sets, VCRs so it would be cheaper to do this than purchase individual STBs for each VCR and each TV set. I suspect this may well grow into 'mini-headends' that provide this functionality in one box; perhaps similar to Ikusi offerings with their modular set-up. We (the industry) have a great deal to learn about the most cost effective way to increase digital take-up from its present near-failure level to something approaching universal acceptance."

Roger W, NSW

Unfortunately the people who push TV set sales want to hear none of this; their preference is that every home, every MDU have full pass-through of DVB-T and that all TV receivers and VCRs be replaced quickly with DVB-T compatible versions. How many DVB-T VCRs have you seen on offer???

Coop in Memphis?

"I received an Email advising Coop was to be in Memphis (Tennessee) at a large home dish installer trade show in June. True?"

Greg Heifner, Columbia, Missouri

True, to introduce early pre-release editions of "VIDEO PIRATES" - his new book scheduled for hard cover release in December. In fact, all subscribers to SatFACTS are receiving a six-page insert (in 4-colour, no less!) with this issue announcing the early availability of several COOP produced items. In July, try www.bobcooper.tv.

X-Box software? <http://www.geocities.com/funpatch2004/> as of late May did not have the most recent software version (1.73) available. We suggest you talk with Shaun at Strong Technologies (61-3 - 8795 7990) for your own emailed copy.

Bluekiss TV kisses us good-bye. It is all over, no more 'off shore' feeds of "adult programming" - for now. Bluekiss on AsiaSat 3S shut down on June 1st. Dealers with "unsold" Viaccess and Irdeto 'cards' are advised to contact Rita as rho@callecstgroup.com where they promise to 'process' your 'returns' (as no longer being viable).

Latest SatMax receiver reportedly has ability to access Nagravision 1 encryption (we leave it to you to work out why that might be of interest - hint: C-band).

InFusion, an Australian firm, has created a 'portable internet radio receiver' allowing users to access the now tens of thousands of 'radio bloggers' who have created their own, private, radio stations via 'the web'. The receiver is designed to work in a WiFi 'hot spot' (areas where WiFi allows access to the web - such as airport waiting lounges, and increasingly large areas of CBDs). The receiver is incredibly compact (the size of a credit card!), allows reception of normal FM broadcast, MP3 play, audio recording from Internet or FM radio, rechargeable batteries. *"This is not your parent's radio service - anymore!"* (see p. 18, here)

Copyright via 'the web'? The BBC is rushing in where no prominent (television) broadcaster has dared to tread by offering (or promising to offer, shortly - this year) an almost unlimited 'schedule' of TV programming via the web. 'BBC Backstage' is a new offering, built around something BBC calls 'Creative Archive' - access to virtually anything the BBC has put on the air in the recent past (such as today). Hollywood has responded, essentially telling BBC, *"You cannot do this - WE own the copyrights"*. Perhaps, but 'Backstage' and 'Creative' remix the original offerings, into customised web-fed programming which bears only a family resemblance to the original over the air telecasts, essentially recreating the same programming with a number of 'variations' which BBC sees as "fixing the copyright matter". Who will win here - Hollywood, or, 'The Beeb'? Stay tuned, and see p. 18 here.

Cyber pirates. Premier League (UK) football matches, exclusive to BSkyB, are being fed back into UK on the web, contrary to Sky's agreement with the league. Lawsuits are pending - another example of 'cyber-piracy'.

Accuracy and Quality

Unaohm measurements are based on sound engineering principles that have been confirmed in some of the foremost engineering laboratories. BER precision is assured as the same BER systems are employed from the top of the line EP3000 all the way down to the new handheld models.

Features include Modulation Error Ratio, Data Logging, Spectrum, Expanded Spectrum and simultaneous views of any seven transponder signal levels.

S20 for Satellite QPSK, T40 for COFDM or C30 for QAM, complete the handheld family. And they all ship with a robust rubber holster and neck strap.

It's nice to save a few dollars, but if that means you buy a less than accurate instrument - is that wise?

Unaohm has almost 70 years of instrument manufacturing experience. Coupled with Laceys.tv factory trained support, your investment is assured.

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Digital and Analogue, Terrestrial, Satellite or Cable.

Digital tuners at Woolworths

"Comments in SatFACTS concerning DVB-T. Here in Melbourne, Woolworth's Super Markets have put on sale SD DVB-T tuners for A\$69 along with Multizone DVD players for A\$79. Digital (DVB-T) is working well here and catching on; I have 3 in my home. The SD picture on a LG42" plasma is great! There does not seem to be any rumbling of discontent with the DVB-T system here relating to reception problems; people are buying them (such as at Woolworths), hooking them up themselves with minimal problems. With the local supermarket selling the STBs, I would say they have 'arrived'."

Bill Scott, Melbourne

Even at bare-margin pricing, the SD DVB-T is costing Woolworths at least A\$53.82 per box which translates to a manufacturer cost of not less than A\$40.37 - possibly more with freight and handling added. It is very unlikely the retail price is going to drop lower than this - the numbers simply fail to add up (unless somebody, someplace, is subsidising their retail pricing). For our international readers, A\$40.37 is equivalent to US\$30.81. Is there anyplace in the world where a DVB-T STB wholesales for under this figure???

Letter to a Minister

"Follows excerpts from a letter directed to Minister of Broadcasting for NZ, Mr Maharey.

"For the past six months TVNZ has been testing whispers of DVB-S on Optus B1. I, like, thousands of others, are anxious for this testing to evolve into full time service but calls to TVNZ reveal, "the launch of real service will have to wait until after the elections". As a minister YOU can overcome the reluctance of TV3-4, and Prime, to be a part of this much anticipated service. It makes no sense that this very important issue is cloaked in some mysterious 'commercial realm' administered by people not answerable to the electorate. Why must this wait until after elections - is the news THAT bad???"

Paul Burton, Waipu Cable TV

Well now, when Optus B1 began acting funny (May 23 - see p. 14 here), some suggested TVNZ lucked out - it had not committed to B1, rather it would wait until D1 became available. Hindsight - they may be slow but in this case they may have been on the right side of 'haste makes waste'!

HARDWARE EQUIPMENT PARTS

UPDATE

JUNE 15, 2005

Optus B1 - MAJOR problems??? On Monday May 23rd it 'burped' - went silent for several minutes, a prologue to Wednesday May 25th when the satellite had a "misadventure" and turned into a rotating robot; out of control. Yes, Sky NZ service quit when these "misadventures" occurred and the fall out from this is not encouraging (remember 'Tin Whiskers'???)
See page 14.

The European Commission has announced an EU-wide analogue shut down date (2012). Individual countries have established their own dates, most are subject to continuing review of the 'take up level' of DVB-T within a national area. The Commission wants to set a 'final date' so that members of EU don't vacillate around too widely. Finland has announced 2007, Sweden 2008; the UK has dangling around 2012. France, Poland, Denmark have yet to announce any date - all of which seem very fluid at this time. Australia continues to 'flirt' with 2007-2008 while New Zealand continues to put off any sort of public advisory. even explaining that DVB-T is coming, cannot be avoided.

A U.S. court has ruled the American FCC's mandated 'broadcast flag' for DVB-T, is illegal; that the FCC does not possess authority to require broadcasters to employ software to prevent viewers from copying or sharing DVB-T content (see SF#129, p. 28). The issue was important to both Hollywood 'rights owners', and, the consumers would have been directly affected by a 'data signal' which, on demand, would have prevented viewers from recording or 'sharing' the content beyond the actual first-in-line receiver (such as to a second set through WiFi). The 'real issue' involves Internet; the ability to share something that comes into your house through a broadband Internet connection with 'others'. Prior to the court ruling, all DVB-T broadcasters as of July 1 (2005) would be required to transmit a 'broadcast flag' which would be a 'go' / 'no-go' permission tag on all broadcasts. The court has ruled the FCC cannot mandate such a broadcast procedure, which now passes the issue back to the U.S. Congress to enact a new law to support the plan. Stay tuned.

Death by card. As unbelievable as it may seem, ebay in mid May offered for bid, "Unlock ALL Sky Pay Per View channels" for the UK BSkyB service. "All Pay-Per-View channels on SKY digital can be accessed for free" read the text. "You need not mess around with the box itself, view all of the latest films, football, adult material only available on pay per view." The one day-24 hour ebay auction promised, for a fee, "This e-book gives you all of the information required to unlock all of the (PPV) Pay Per View channels on Sky Digital without having to pay a penny". The listing said, "10 available" and the "starting bid" was GBP 0.99. We checked it at 16 hours 40 minutes of the deadline and found no bids. Contact? stuffandmore.co.uk.



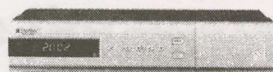
Phoenix Technologies



Satellite Equipment & Accessories One Stop Supermarket

Phoenix JT3100T Digital Terrestrial Receiver

- Digital Audio Output (S/PDIF)
- Dolby Digital
- Wide Screen (16:9) Hot-Key
- S-VHS, CVBS & RGB Video Outputs



- Super-Fast Channel Scan
- Electronic Program Guide
- Channel Rename Function
- Software Upgradable

\$180/each (for 6 unit)
\$160/each (for 30 units)

Magix 8800 Receiver (Made in Korea)

\$220

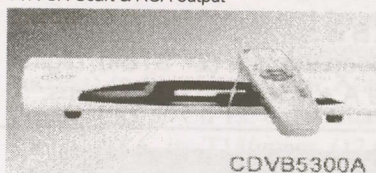
Coship digital receiver (Iredto V2.09 CAM embedded)

\$220

SPACE 5300A CI Receiver (Two Common Interface Slots)

Auto PID correction
C & Ku band input
PAL/NTSC auto converter
5000 channels
Picture in picture EPG
DiSEqC1.0/1.2 control
TV/VCR Scart & RCA output

\$180



CDVB5300A

SPACE 2300 digital receiver

Auto PID correction
C & Ku band input
PAL/NTSC auto converter
5000 channels
Picture in picture EPG
DiSEqC1.0/1.2 control
TV/VCR Scart & RCA output

\$140

NextWave 3220 FTA digital receiver (Made in Korea)

C & Ku band input, PAL/NTSC auto converter
5000 channels Picture in picture EPG
DiSEqC1.0/1.2 control
TV/VCR Scart & RCA outputs

\$160

NextWave 3220C digital receiver (Two common interface slots) (Made in Korea)

C & Ku band input
High symbol rate >45,000
PAL/NTSC auto converter
5000 channels Picture in picture EPG
DiSEqC1.0/1.2 control
TV/VCR Scart & RCA outputs

\$220

Iredto 2.06B CAM	\$140	Zinwell C band LNBF	\$35
Viaccess CAM	\$140	Zinwell 10.70/11.3	\$25
65cm offset dish	\$27	/Universal Ku band LNBF	
75cm offset dish	\$40	MTI C band LNBF	\$35
Superjack DiSEqC 1.2 motor	\$95	One cable solution C-band LNBF	\$50
Universal Mount	\$15	Satellite finder	\$30
2.1m mesh dish	\$120	Silver Card (10/bag)	\$125
2.3m mesh dish (motorized)	\$170	Gold Card (10/bag)	\$85
2.4m heavy duty mesh dish (motorized)	\$210	RG6 Stripper	\$20
1.8m 6 panel dish	\$130	RG6/11 Crimper	\$30
RG 6 Dual cable (305m/roll)	\$75	Angle meter (made in USA)	\$85
		Compass	\$30

Optus C1 Aurora Kit Coship digital receiver

(Iredto cam embedded)
11.3 GHz/Universal Ku
LNBF, 75cm dish, Mount bracket

\$315/set

+Aurora card \$75

LBC, ART, Al Jazeera Kit Coship digital receiver

(Iredto cam embedded)
C-band LNBF, 2.3m
Mesh dish.

\$435/set

+Subscription fee
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Free to air kit (for NSS 6, Optus B3)

Including dish, LNBF, digital receiver, etc.

Start from \$250/set



Changhong 1000 Digital Receiver Aston 1.05 Cam embedded

Best Value For Indian & French
(C-band on Asiasat 3s & Ku
band on Intelsat 701)
C & Ku band input, 2000
Channels.

\$170

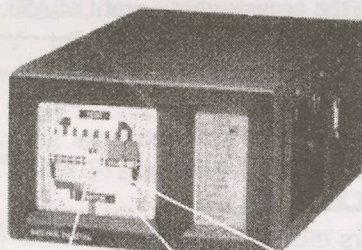
(Top quality) TESTING EQUIPMENT SPECIAL (made in Sweden)

Satlook MARK III \$950

- 4.5" B/W monitor for PAL/NTSC/SECAM
- Satellite-receiver 920-2150 MHz
- Tunable sound 5.5-8.5 MHz
- Spectrum analyzer
- Expanded spectrum
- LNB voltage 13/18 V
- 22 kHz tone switch
- KU- and C-band (normal/inverted video)
- Built in rechargeable battery
- Only 3.5 kg complete with carrying-case

Satlook Digital NIT \$1550

We are pleased to introduce our new SATLOOK Digital NIT. NIT stands for NETWORK INFORMATION TABLE, which today almost all DVB-satellites transmit as standard. The NIT contains information about the Satellite and TV/Radio-channels. It's very easy to identify a Satellite when reading out this information. The different TV/Radio-channels on a transponder can also be read-out.



Satlook COMBO \$2550

- Input frequency: 2-900 MHz and 920-2150 MHz
 - 4.5" B/W Monitor for PAL/NTSC/SECAM
 - Lots of memory positions for spectrum pictures
 - RS232 for PC-connection
 - Built in, rechargeable battery. Only 7kg complete with carrying case
- TV-PART:**
- 2-900 MHz spectrum analyzer
 - Presents full range spectrum (and expanded)
 - Very high accuracy, $\pm 1\text{dB}$ (at 20°C)
- SAT-part:**
- 920-2150MHz spectrum analyzer. Digital BER, QPSK and S/N-ratio
 - Satellite-ID and TV/Radio-channel info (NIT)
 - Tunable audio bandwidth 5.5-8.5MHz
 - LNB voltage 13/18V, 22kHz tone switch
 - DiSEqC according to level 1.0, 1.1, 1.2
 - KU- and C-band (normal/inverted video)

Full range of C/Ku band satellite dish - panel & mesh, prime & offset, from 45cm to 4.5m

Full range of Zinwell, MTI C/Ku LNBF - Dual output, one cable solution, C/Ku combination

Full range of actuator - From 12" light to 36" heavy duty

DiSEqC 1.2 Positioner & SuperJack EZ2000 Positioner

2.4 GHz AV sender and Remote extender

RG6 Cable and Motor cable

Full range of satellite accessories



THIS MONTH SPECIAL



SPACE 2300A FTA Digital Receiver \$1300/(10 units)

Magix 8800 Digital Receiver \$1200/(6 units)

Phoenix 2.3m Mesh dish \$1650/(pallet of 10 sets)

Zinwell LNBF 15K C-band LNBF \$648/(box of 24 units)

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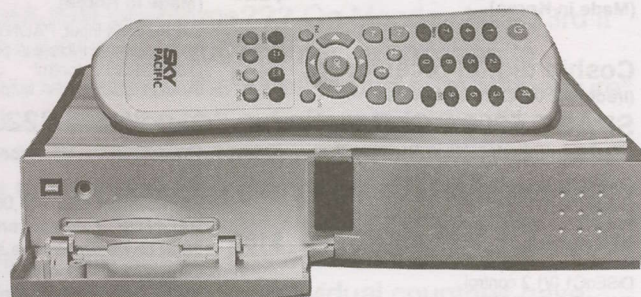
Only available in Fiji - from Sky Pacific

Tiny box powerful performance

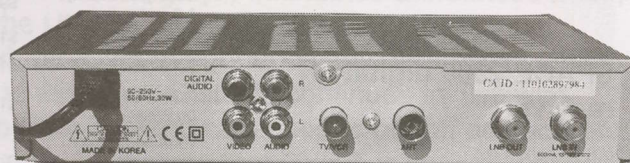
Fiji's Sky Pacific TV STB is manufactured by Korean firm Digital Multimedia Technology Co., Ltd. (www.dmts.com) and is an unlisted model (DMT 1550) not found in their product description segment of the corporate web site. The company was licensed by NagraVision in March 2003 to create receivers for this particular CA format. A similar model is also manufactured for the German Premiere Broadcasting Company (through intermediary MEDION). NagraVision 2 requires a CA card, authorised by the programmer, and there is a 'hand shake' that must also take place between the receiver and the card. In theory, NagraVision 2 is difficult to 'hack' because of this hand shake procedure although earlier NagraVision 1 has been widely violated. It is possible for a service to 'split' the NagraVision formats, running one or more channels in "1" and the balance in "2", as several Europeans do. It is also possible to run both "1" and "2" simultaneously, allowing field replacement of cards and where required STBs from a prior universe of "1" to an eventual universe of "2" only (as the American pay-TV network DISH has done).

The nearest the Fiji DMT 1550 comes to a 'listed' model is their DMT1800NA ('NA' for NagraVision); details on their web site under products. The more extensive 1800NA also includes a host of consumer friendly options which probably are not required for most CA services where the programmer itself supplies the STB. DiSEqC, for example, is not required when your transponders are located on a single satellite.

Nor is automatic PAL/NTSC conversion required if you are only in a single format (PAL in the case of Fiji). By 'stripping out' unnecessary functions (including teletext) Sky Pacific



Fiji Sky Pacific STB is no-frills NagraVision 2 CA version with LNB loop through (2+ STBs), digital audio, analogue A + V and terrestrial loops.



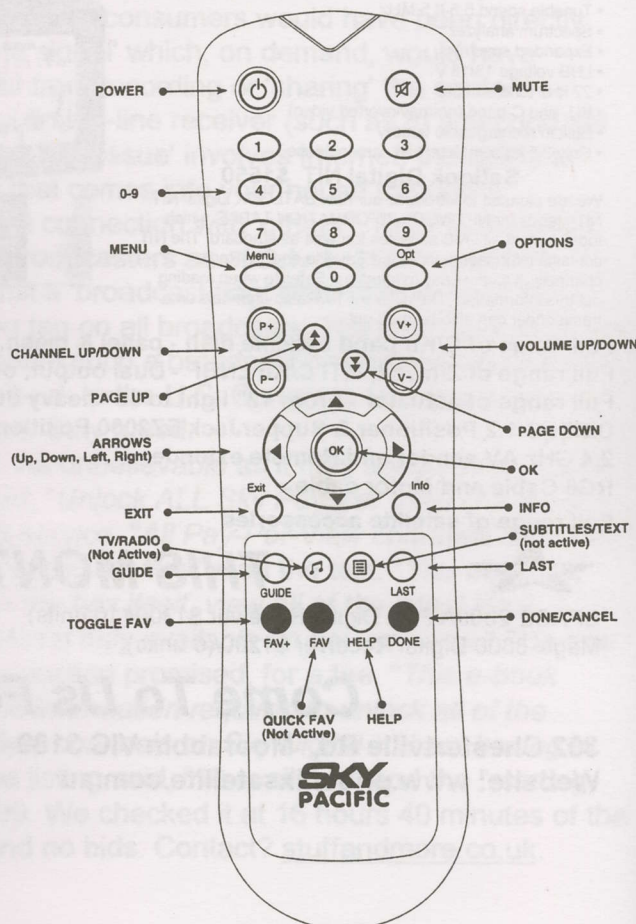
reduces per-STB cost, improves operating reliability, and simplifies customer comprehension of the menu software.

Supplier DMT has been in business since 1998, had last year reported sales of A\$61,394,752 (2003) and an operating profit of A\$3,186,696 (5.2%).

DMT 1550(NA) Parameters

- ✓ Timer function (turns receiver on-off presets)
- ✓ EPG function (if programmer supported)
- ✓ Favourite channel listing (includes themes)
- ✓ Restricted (parental control)
- ✓ Screen format (4:3 standard or letterbox, 16:9)
- ✓ System technical parameters menu access
- ✓ Tuning status (signal level, error rate percentage)
- ✓ Payment status on screen notification

- ✓ Digital audio (through RCA socket)
 - ✓ L and R RCA analogue audio sockets
 - ✓ Analogue baseband video - RCA socket
 - ✓ Terrestrial aerial input (PAL socket)
 - ✓ RF analogue output with STB modulator (ch 31)
 - ✓ 2-45 MSPS, FEC 1/2 > 7/8
 - ✓ STM STi5518 processor, 8 Mbyte SDRAM
 - ✓ MPEG2 data rate maximum - 15 Mbit/s
 - ✓ LNB input - 600ma max, thruput line also
 - ✓ STB tuning range - 950 > 2150 MHz; C or Ku
 - ✓ Power supply: 90 - 250V AC, 50-60 hertz, 30 watts
- Contacts: Uong Kyu Kim ykkim@dmsts.com



"Doing a Boulos": Confuse the enemy - and your customers!

The following report traces the period from (early) February to near-present, illustrating how disjointed, borderline crazy the 'changes' in UBI have been. This is madness, and certainly not a mature business plan!

Early February: BKTv (Balkan) airs graphics stating TV PLUS has exclusive Australia broadcast rights to channel.

9 February: PINKplus, PINKextra disappear, replaced with 'Technical Difficulties' slide.

10 February: Reshuffle of Arabic channels; some gone, some new, those remaining on new channels.

15 February: For several hours, UBI removes all loading tables from four UBI transponders, attempting (without success) to fit an extra new Arabic channel into T15/lower (12.673Hz), as Ch 12. Orbit Channel is eventually placed on Ch 40 FTA in T14/upper (12.640Hz) At same time, all Arabic channels become CA.

16 February: An English text scrolling text message advises users where to find the Arabic channels, as moved.

18-22 February: All Turkish channels become FTA but there is no UBI contact number given for viewers to subscribe.

24 February: Kurdistan TV is moved out of the Arabic channel group (to 40), Orbit (on 40) is moved to Arabic group and once again Arabic viewers are left to search and locate their channels. Ch 41, previously unused, has an announcement: "Satellite community TV information, education, entertainment www.communitytv.com.au coming soon".

26 February: 'BN TV' (Balkan) ads scrolling announcement of installer contacts for TV Plus. TRT FM, UBI's only radio channel, is gone.

27 February: BK TV replaced by 'technical difficulty' slide.

28 February: 'BK TV' running again.

1 March: 'TRT FM' replaced with 'COPTIC' radio.

8 March: Channel 31 Arabic mosaic replaced with Bulgarian 'OBN'.

9 March: PINKplus, PINKextra channels airing 'Technical Difficulties' graphic relabeled as 'BLKN' and 'BALK' have new graphic: 'New premium quality BALKAN CHANNEL coming soon'.

22 March: 'PINKextra' channel now has 'HYAT' Balkan service. Ch 41 now airing long promo tape for UBI's satellite community TV channel.

30 March: Three Russian TV channels, available several months FTA, now gone, replaced with colour bars. March 9th graphic ('premium quality BALKAN') has disappeared - grey screen.

1 April: 'BN' and 'BK' channel graphics ('technical difficulty') has new graphic: "This channel temporarily unavailable. The interruption to our broadcast is related to a court dispute between UBI World TV and TV Plus over broadcasting rights which will be resolved by mid May 2005". (Remember that date!)

3 April: 'TLMZ' (airing mixture of Tele Liban - Arabic and French), Mazzika Music (Arabic) became FTA. Channels 39, 40, 41 and 42 - new graphic: "New Premium quality Spanish channels coming in April: Ch 38 TVE, Ch 39 Cine Latino, Ch 40 Telefe, Ch 41 24 hour entertainment, Ch 42 24 hour music channel. Exclusive to UBI SCTV now on Ch 44." Kurdistan TV has moved from Ch 41 to Ch 44.

11 April: 'TLMZ' still airing Tele Liban and Mazzika FTA, now has superimposed graphic "Panaorama TV".

12 April: TLMZ now gone, leaving only "Panorama TV" graphic on screen.

13 April: 'TLMZ' now rotating amongst all Arabic channels, typically 30 minutes each with 'Panorama' logo on screen; Tele Liban late night to morning uninterrupted.

15 April: 'TLMZ' relabelled "PANO". Graphic on BK and BN has changed to read "...is expected to be resolved..." rather than "will be resolved".

16 April: UBI now scrolling message on 'OBN' (which airs many UK and US shows carried also by Australian broadcasters), "To continue viewing these channels, please register with UBI by calling 1300 400 800".

18 April: 'OBN' is gone, replaced by UBI's "Technical Difficulties" graphic.

2 May: Greek 'ERT' gone, label changed to 'Ch 30' and 'technical difficulties' graphic appears. 'MKT1' (Macedonia) left, replaced by Arabic service; later in day, 'technical difficulties' graphic.

4 May: Graphic appearing Chs 39, 40, 41 and 42 (Latino channels will launch in April - they did not) replaced with new graphic in Spanish text now promising 15 May launch.

8 May: 'MKT1' back again, gone for a week.

12 May: 'KAN7' (Turkish) CA channel relabelled as 'VZYN'. Also relabelled are the long promised Spanish channels (4, total).

13 May: Scrolling text added to 'MKT1' promoting addition of Macedonian 'K15 TV' soon.

14 May: Three Latino channels begin, graphic advises two others 'soon'. Kurdistan TV, Ch 43, replaced with Latino music channel.

15 May: Scrolling of Spanish text message begins on Latino channels advising FTA would only last until 1 June, advising UBI phone number for subscription.

16 May: Kurdistan TV reappears, no Ch 30, relabelled as 'KTV'.

17 May: 'VZYN', previously Turkish 'Kanal 7', is now FTA airing a rotating group of all UBI Turkish channels with a "V" logo. Short promo mentions channel name as 'Vizyou'.

18 May: The two 'missing' Latino channels, not coming up 14th when 3 others did, change from 'coming soon' graphic to now infamous 'technical difficulties'.

'Doing a Boulos' continues on page 30

And it ain't going so well-

TRUE Story: America faces DVB-T

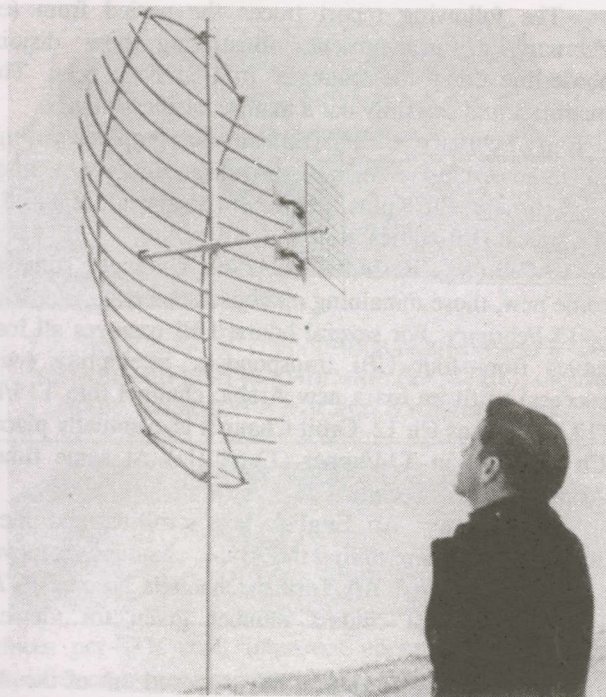
Editor's note: Contributor Tim Alderman is, without exaggeration, one of the top 'field hands' of the TV reception world in the USA. And that includes both satellite and terrestrial reception. Calling in Tim is akin to asking Red Adair to show up at your oil well fire after you have exhausted all possible techniques to put the blaze out. When Tim finds it difficult, you can but imagine how lesser skilled individuals are faring with the "Great American Switchover" to DVB-T.

...
"Take it out!" cried the customer. "If you cannot get it to work properly, I don't want it in my house." His "house" was one of those upper crust San Francisco Victorian mansions, the kind you see portrayed on television when they want to show you how "the other half" lives. In fact, the other "1/10th of 1%" would be a more apt description. Think of luxury, square it, and then take it to the tenth power. There I was in my grubby work clothes at the foot of a 50 foot long marbled staircase pondering, "How do we fix THIS one?"

The problems were many-fold. The client, if that is the descriptive phrase, of my sometimes employer Myron, was faced with integrating the output of a DirecTV Ku-band dish system with a plurality of off-air DVB-T channels such that the viewer would find it all 'seamless' - simply push the appropriate button(s) on the IR and on the 42 or 60" Plasma screen appeared the channel of choice. People 'this wealthy' have a very low tolerance level for being asked to either 'think' or do anything that involves more than one sequential step (for example, "push 34 and then push AV" is asking them to do more than they are willing to do). There are Videophiles (who love to push buttons in some complex sequential stream) and there are average folks - rich 'average' folks who simply cannot be bothered. When you are brought up, as this client had been, with servants providing their every whim at a snap of the fingers, a TV set that requires more than one action to select a channel is unacceptable.

Problem number one: San Francisco's primary TV tower is called 'Mt Sutro' and it is located such that signals travel far (100-150 miles), strongly, as far as Nevada (get out your Atlas; it is akin to watching Sydney in Queensland). And the client's 'Victorian mansion' was not more than a mile (1.62 km) from Sutro. Take a normal TV antenna, connect a #47 light bulb to the driven element, and read by the energy generated! So every inch of the Victorian was 'hot', so much so that quad shield cable was barely - if in fact - adequate to prevent direct pickup (never mind that the F connector on the rear of the Plasma screen TV sets has 6 inches of RG59 miniature connected to it in the run to the tuner - and you can be sure nobody in Japan in designing this set ever thought about making that six inch chunk 'quad shield'!)

Report created by Tim Alderman, a resident of Oakland (California), a sometimes, and always welcome, contributor to SatFACTS. tim@electron.org



Piece of the puzzle. Channel Master 425 Parascope as it was first introduced in 1960; it is the feed + back plate we will recreate for the job.

Myron had been the 'third choice' after two previous installers had clung for their life on 40 degree pitched slate roofing installed in 1880 or so. This was one of those jobs where the customer says, "I don't care what it costs - just make it work!" and the installer responds, "I don't care how much money you 'throw' at this situation, it ain't ever gonna work to your satisfaction". Of course being a mile from Sutro was a big part of the problem, but working for a man who passed Billionaire status two or three generations ago was the much bigger problem. "Nobody says no to me", he advised Myron. Right one.

Pushing my luck (I am past mid-50s and gave up clinging to slate roofs pitched at 40 degrees ten years ago), finger nails screaming for a grip that never came, somehow the peak of the multiple story roof was ascended. I felt like New Zealander Sir Edmund Hillary on Everest as I sat there pondering, "Now that I am here - how in the blue blazes will I get down without dropping 60 feet to the street below?"

Two prior guys had been here. One installed an amplified antenna (mast head at the antenna) showing his total lack of skill levels; I measured 46 dBmV on the weakest channel coming out of the antenna with my precious FSM propped up between my legs straddling the extremely sharp slate roof peak line (you can imagine what this could do to your private parts on your own - at 55+ I did not give it a second thought). For reference, a reasonable quality MATV modulator puts out

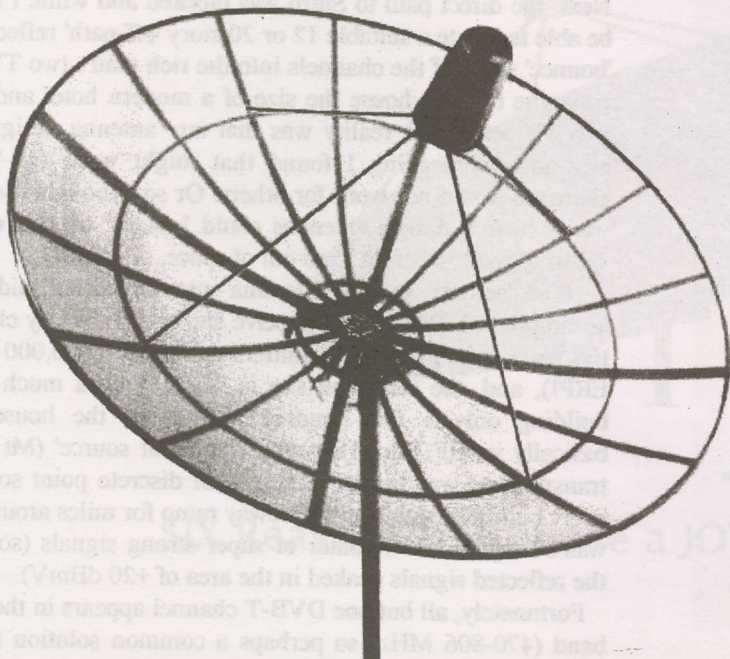


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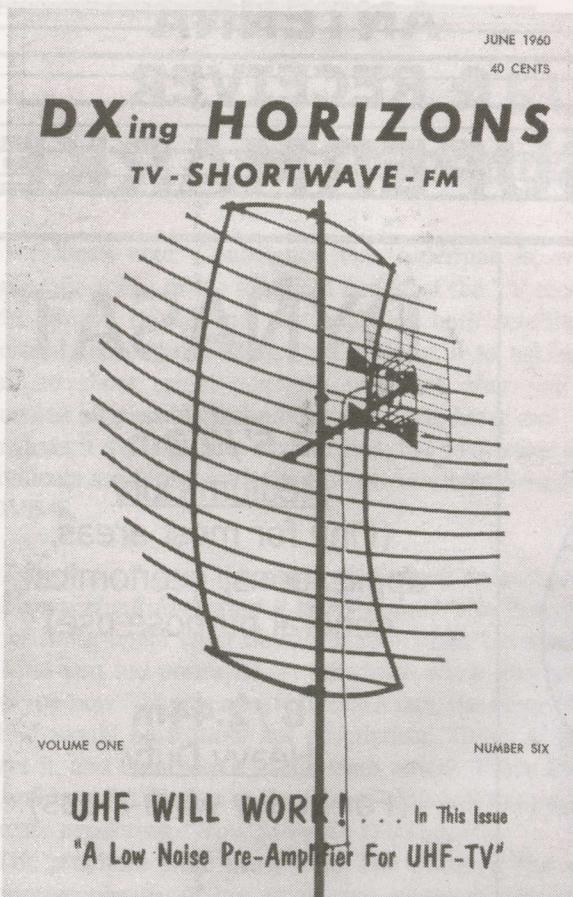
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UHF has always been a pain in the butt, not helped by 1960 era TV set tuners that had noise figures for UHF tuning above 14 dB while companion VHF tuners were typically under 5 dB. This edition of DXing Horizons (June 1960) highlighted that noise performance limitation. (1)

+50 dBmV, so +46 is akin to connecting a 110V AC light bulb to a 220V AC line. Poof.

Yes, when several dozen analogue and DVB-T signals 'mixed' inside the 'deep fringe model' antenna preamplifier, what came out was total trash. It got better (worse!).

As close as Sutro was, directly between my crotch slashing roof peak and the 'TV Mountain' was a 12 story building, surrounded by others of similar height. So the Sutro-to-crotch signals were being bounced rebounded, and skipped from vertical wall surface to reflector plate several times before they arrived in my FSM. Tugging on a rope, I raised the Avcom PSA65 spectrum analyser to my not very comfortable 'sitting' position and proceeded to look at the signals. Very educational. Not one was still horizontal, unbolting the consumer grade antenna, dismantling the amplifier and going 'direct' to the PSA65, I could easily see that by rotating the antenna through a 360 circle, not much changed. Trash in, trash out. It got worse. I tried flipping the antenna from the normal and required horizontal polarity to vertical and then at various steps between the two. As many as a dozen discrete 'point source' signals on each and every channel, and not one

1/ DXing Horizons, TV Horizons and hundreds of 1950-1970 era technical publications tracing the nitty gritty development of TV world-wide are scheduled for DVD release by SatFACTS in September 2005.

of them worth a damn. It was clear to me that either I was going to die and be buried (a good trick, I think) 60 feet above ground on a slate lined roof or somehow lower myself and my equipment back to a safer elevation. Nothing previously installed on the roof (at great expense, I am sure!) was going to be of any use to me.

Back in the shop, I pondered the problems (plural, there were many). The signals were strong - so strong that before we got done, attenuators not amplifiers would be required. Next, the direct path to Sutro was blocked and while I might be able to locate a suitable 12 or 20 story 'off-path' reflector to 'bounce' some of the channels into the rich man's two TV sets (imagine that - a house the size of a modern hotel and only two TV sets!), the reality was that any antenna design and any antenna heading I found that might work for 'some' channels would not work for others. Or so I thought. So how many custom design antennas could I 'stack' on this crotch splitting rooftop before I ran out of space, or crotch?

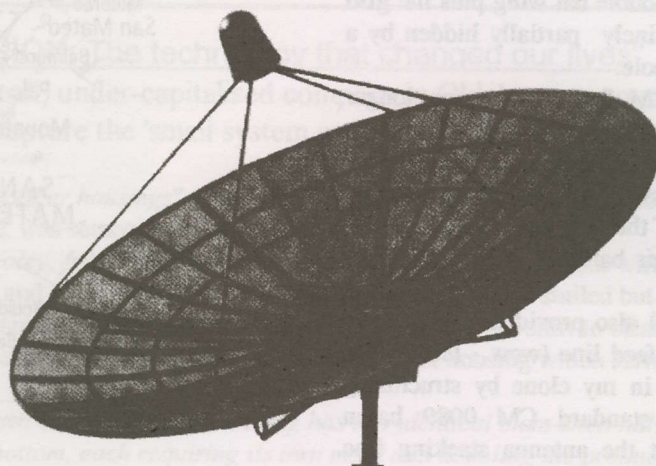
The 'answer' to this dilemma was far easier said than accomplished. Because the receive site was so bloody close to the maximum power transmitters (some to 5,000,000 watts ERP!), and, the reception site is shielded by a much taller building only a few hundred feet away, the house was basically in 'RF Burn Heaven'. The 'point source' (Mt Sutro transmitters) was in fact hundreds of discrete point sources; every building, sign board, freeway ramp for miles around me was acting as a re-radiator of super strong signals (some of the reflected signals peaked in the area of +20 dBmV).

Fortunately, all but one DVB-T channel appears in the UHF band (470-806 MHz) so perhaps a common solution for all (but one) could be found. Normally, when you attempt to achieve a very sharp reception pattern (an antenna with a 'narrow focus' angle), the physical size of the antenna must be enlarged; a 7 foot UHF TV dish, for example, has a much more precise 'aim-it' signal pickup pattern than a simplistic dipole. Unfortunately, the client had some rules: "No part of the TV antenna shall be visible from any place on the property" came right after, "It must work perfectly on all channels". So a large antenna, which possibly would have produced far too much gain anyhow (time to use an attenuator in line!) was not doable simply because it could be / would be 'seen'.

Some years prior, while attempting to produce satisfactory off-air ATSC DVB-T (SatFACTS #117, p. 18) in a badly shielded area where the problem was the opposite of the present situation (too little signal), I had resurrected a twenty year old Channel Master 7 foot UHF dish and carefully rebuilt just the feed portion to improve the wideband (470-806 MHz) response. The American ATSC digital system depends primarily on slotting in DVB-T transmitters onto channels which were not in use by analogue transmitters. As in Australia, where 7 Network uses channel 8 for digital, this means the dial goes from half full to totally full in a geographic region as large as the San Francisco Bay area; almost literally, either an analogue or a digital transmitter on every TV channel. Limited to a single UHF antenna, and a small one at that to 'avoid visual detection', I fell back on just the feed portion of the old Channel Master 7 foot dish.

The original design used a pair of wideband ('bat wing') dipoles, fed in parallel from a common point between the two antennas. The bat wings were a part of a large sandwich - in

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one direction the 7 foot 'sort-of parabolic' signal reflector, and on the opposite side a screen grid reflector which turns the bat wing stacked dipole into a two-element broadband pickup antenna. The reflector in this case acted to prevent direct signal pickup by the bat wing dipoles, restricting it to capturing signal that landed on the 7 foot reflector surface and then focused to the dipole array.

There would be room for the double bat wing plus the grid reflector to be mounted clandestinely partially hidden by a roof skylight, on a 3 foot stubby pole.

The long ago abandoned CM 7 footer was no longer available so cannibalising it for the feed was not an option. However, I had carefully created a clone of the original substituting larger diameter brass for the bat wing stacking lines, and more brass in place of the original CM aluminium and steel segments found in their bat wing dipoles and the reflector backplate

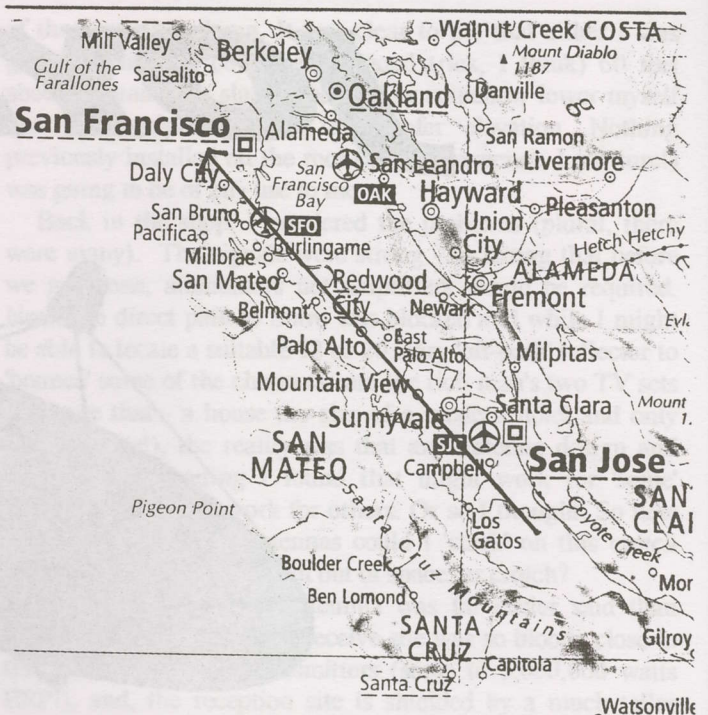
The Channel Master original also provided twin loops to allow connection of a 300 ohm feed line (wow - *those were the days!*), which I eliminated in my clone by structuring direct solder-to points for a standard CM 0089 balun (producing a 75 ohm output at the antenna stacking line connection).

What this new antenna would do is allow me to not only carefully point the 'array' for maximum signal but, of greater importance, rotate the full backplate plus twin bat wing structure looking for the cleanest signals.

To the roof

The concept is that by carefully 'balancing' the physical elements of the new antenna, it would have an exceptionally clean pattern with a very high rejection of non-desired polarity signals. The best Sutro signals were found to be off path when the back plate plus bat wings were rotated 20 degrees off of horizontal. I tightened the bolts and climbed down reasonably confident that +20 dBmV on the weakest signal was going to be more than enough to do the job. Well, it did; almost. As domineering as the Sutro location is, there are other locations where TV (FM, two-way radio, cellular phones) fill the available ground space. And unfortunately CBS affiliate KPIX (channel 5 on analogue, channel 29 on digital) was 'acting like' it was not on Sutro. I had used their signal as a reference while on the roof with the spectrum analyser, aware that if they were clean for any of the adjustable receive antenna settings, the rest should also be (being much stronger). I was around 99% correct but the last 1% would cause our client to insist "*You fix that if you wish to be paid!*". Right on. A digital signal that burps and 'tiles' even if only say once an hour for two seconds was, in this customer's mind, unacceptable. Billionaires can be funny, that way ('if you throw enough money at a technical problem, it can be fixed' - the great American mindset!).

And there was one more piece of unfinished business. In the wonderful world that is American broadcasting, the San Francisco NBC channel had been replaced by what we in the USA call "an independent station" which means no network programming, just lots of sports, movies and syndicated programming. This caused quite a furore in San Francisco but as the city has something like 77% cable TV penetration and a companion high take-up of the Ku-band DISH and DirecTV services, NBC was "missing" not even for minutes; cable and Ku quickly found a substitute NBC channel to deliver to customers.



Not just terrain - 60 mile 'path' from San Jose to San Francisco crosses over millions of people/noise.

It happened to be in San Jose, 60 miles south of 'Bagdad by the Bay', which meant it is at best a 'near-fringe-area' signal into 'The City' proper. Yes, the client wished it as well, but we had to remember the number two rule - "*No antennas visible from the property*". Now, a UHF antenna is easily nestled in the palm of your hand, and becomes invisible if held behind your back. A channel 12 VHF aerial, slightly taller than the average person when created for fringe area reception, is a much more difficult object to 'hide'. With some very precision planning, a 6 foot stub mast could replace the original 3 footer, a Blonder Tongue BTY series single channel yagi could be mounted just to clear the roof and point towards San Jose. The UHF antenna I created would nestle on the same mast. Alas, I was relearning the lesson so many DVB-T installers have also learned - signal 'level' is not the name of the game.

I admire the skills of people such as Unaohm who have created those marvellous satellite plus terrestrial meters which provide the wide variety of measurement numbers which a successful installation now depends upon. But such instruments, unlike in Australia, are very rare in the USA so I had to improvise. With each trip up onto the estate roofline my concerns about ending up in a heap on the ground were diminishing so the quick solution, under the now mounting customer pressure to, "*Get it right, now!*", was to haul a Motorola DSR550 IRD plus a 13" TV monitor up there to the peak. This Motorola IRD has a built-in ATSC (which is the USA version of DVB-T) tuner and if you can navigate your way through as many as ten layers of menu, some very useful information appears on the screen. One is signal level in dBmV and another is "noise" which of course is the opposite of signal, but in a very clever way. With this IRD, anything that is not 'digital TV' is considered 'noise' whether it comes from analogue sources, manmade interference or instrument overload.

Finally, I had the tool required. For failing KPIX digital, I discovered that while my spectrum analyser had not 'lied'

Release dates:

15 August: "TVRO History" (the CSD + CATJ collection covering 1974 through 1987); as it happened.

15 September (DVD pre-release version): "VIDEO PIRATES" (Coop's new tell-all book that leaves no dish unturned!)

1 November (DVD pre-release version): "TELEVISION: The technology that changed our lives"

EXCERPT: "TELEVISION: The technology that changed our lives"

Prologue: How does a small, under-capitalised company in Oklahoma, compete with the big names in cable TV hardware, and capture the 'small system market? By being clever - *very clever!*

...
"I have an answer to the amplifier housings", announced Richey. Behind him, on the floor, barefoot, sitting Indian style and only modestly presentable, was someone wearing glasses.

"Bob - this is Mike - Mike Foley, from New Zealand". The figure rose from the floor with the smooth motion of a gymnast and put out a hand. I shook it and responded, *"Are you Steve's solution?"* Mike smiled but did not answer. Steve immediately began describing a housing, using his elbow covered sleeve with a ten day old shirt to clear a small corner on his always busy chalk board. He drew me a sketch and it looked like an aluminum cast housing which Jerrold, SA and others were already using.

"This is the clever part", Steve continued. *"The housing has two identical clam-shell halves. Everyone else has two separate halves, a top and a bottom, each requiring its own mold and doubling the production and inventory problems. Mike says he can do this in the rear of our building, you know - back where Bickel is building our log antennas"*.

I thought the identical halves concept brilliant but didn't see how one got from aluminum raw stock to a molded housing for anything short of - maybe \$100,000?

"Sand. Sand casting is the answer. Mike will build a giant sand box in the back, create holes in the sand the exact shape and size of the half housings, melt down aluminum bar stock and pour the liquid aluminum into the sand castings".

Faith. One always needed unlimited 'faith' when listening to the latest Richey mind creation.

"Let me get this straight - we are going to become a foundry, melt down aluminum stock, make forms in sand and then fill them up with the aluminum we pour out of crucibles?" This seemed like quite a diversion for a firm etching circuit boards and stuffing parts in holes to be soldered.

"Mike can do this. And he can take the castings and machine them after they cool to the exact requirements of our circuit boards. For the large coaxial cable fittings, we drill out the casting, tap and die the holes and the connectors will simply screw right in. Instant housing!"

Mike Foley was a rare jewel. When he finally spoke to me, his Kiwi accent was barely discernible. He had a deep voice that would create an image over the telephone which always shocked people when they finally met him. You knew he was not 'American' but were hard pressed to decide which 'British' country he hailed from. Much later in life, I would learn a great deal more about 'Kiwi ingenuity'.

After reaching a decision to try this insanity, my original \$100,000 approximation of what it would cost to become a foundry ended up at just over \$2,000. Mike, our truck, and company 'gofer' managed to round up everything required to start for a pittance, including two dump trucks of appropriate sand deposited into our alleyway by the shop door.

Mike made a bed for himself in the newly rearranged shop, and literally slept and ate there for a week turning raw concrete floor into a giant sandbox supported by a Mike-designed system to melt, pour and transport liquid aluminum (or aluminium, as Mike called it). Two days after the equipment was fired and aluminum began to liquify, he was walking down the hallway carrying a sand cast half-housing for Richey's approval.

In a matter of days completely machined amplifier housings were pouring out of Mike's foundry into the final assembly area where they were mated with previously built amplifier boards. CADCO was, in record time and at minimal cost, now a full line supplier of cable television hardware.

Over a very rare beer break, I attempted to engage always quiet Mike in conversation.

"Where did you learn to do this?" I asked, with obvious admiration in my voice.

"I never learnt", he answered; a man of very few words.

"Making sand casts, melting aluminum, pouring molten metal?"

"Never did it before" he answered.

It was 1972 and at age 34 I had never been to New Zealand. But, I made myself a promise on the spot as Mike slowly sipped his beer. *"These must be very amazing people - someday I will visit his home country."*

TELEVISION: The technology that changed our lives will be available in limited edition DVD November 1, 2005; in hard cover book format early in 2006. Additional Excerpts from this and **"VIDEO PIRATES"** will appear here in SatFACTS future editions.

when it directed me to twist the polarity of the modified bat wing antenna 20 degrees, it was measuring more than the KPIX signal. By watching the DSR550 noise readout, I saw where by further rotating the bat wing antenna from 20 to 45 degrees, I picked up 14 dB of signal to noise ratio with only modest compromises in the already over powering Sutro site transmitters. KPIX would never 'tile' again.

For NBC digital on VHF channel 12, the Blonder Tongue yagi's sharp narrow front beam was a wonder. Just a few degrees either side of the dead-on heading for the distant transmitter and Sutro's powerful VHF signals wiped out NBC. But when carefully adjusted, the Sutro 'noise floor' went away magically allowing 20+ dBmV to sneak in on the desired signal.

What we learned

A VHF cut to channel yagi, a carefully honed broadband UHF antenna - both precision adjusted for peak performance even if the UHF antenna 'looked' like it would be skewed - married in a VHF - UHF combiner and run through quad shielded RG6 completed the job. As prior attempts by other installers had revealed, while this is no longer an analogue

world, there are still basic laws of physics which will not change.

Too much signal, especially when it seems to arrive from multiple directions simultaneously, is a major challenge when installing a receiver system nearby to the transmitter 'antenna farm'. Signal polarity, which may begin as carefully engineered horizontal, will vary greatly at even close-in receive sites. And, digital STBs or receivers are very much at a disadvantage when faced with a multiplicity of strong signals (especially when half or more are the one-day-to-be-retired analogue variety).

In this client's case I batted 98% in the end. The missing two percent? Before leaving I roamed through the grounds of the estate, peering at the roof point where I knew the antennas had been 'hidden'. I found one location, about as large as you would create by standing still and raising your arms straight out, where if you held your head 'just so' you could see *one element* for the larger than life VHF antenna. Of course this 'antenna view hotspot' requires you to be at least 5'10" tall, and be standing off the manicured pathway between some prickly plantings. I doubt many people will ever notice it!

HS-601 says it all!

The 'Tin Whisker' threat to B1 (and B3 as well!)

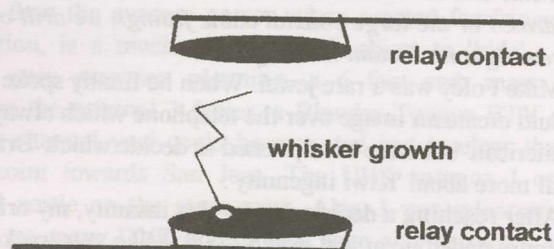
SatFACTS for February (#126) reported on the evidence linking the sudden failure of Intelsat I804 (174E) with a solar eruption that bathed our planet and the surrounding magnetosphere in jillions of volt equivalents of high power particles. The disruptive, killer, effects of 'sunspot eruptions' has been known for centuries, but the relationship between satellite failures has only become obvious in more recent times.

The loss of I804 (somehow it commanded itself to leave orbit, apparently jettisoning into deep space like a wayward missile) drew attention to a design defect which has quietly, without fanfare, bugged the satellite design industry from at least the 1970s. The fault 'family' is known as 'Tin Whiskers' (1) in the satellite world; this describes something quite unanticipated that occurs when a simplistic relay device is operated in the near vacuum of space.

In fact, 'tin whiskers' are very tiny, microscopic in dimension, 'metallic threads' not unlike a single pathway created by a spider. Well, that is almost true. A spider's web must be supported at both ends, like a bridge while a 'tin whisker' has the ability to 'stand up' supported on only one end. There is more.

A tin whisker is a growth (think of it as a cancer formed from metal and attached to metal) which once begun continues to increase in length as if fed from the attached 'bottom'. And now the nasty part.

A whisker is 'conductive' - it will carry electricity because it is metallic. So when it bridges (or comes close to 'bridging') the distance between the relay's two contacts, a 'signal' flows. The 'normally off' relay point is connected to the 'normally on' and what ever the relay 'separates' is now



Think of a simple relay. Now, something causes a blemish (call it a 'wart') on a contact point and from that 'wart' a tiny growth begins. Over time, the growth increases in length working its way ever closer to the opposite contact point surface. Then one day - it reaches the second surface and 'BANG' the relay faults causing no end of responses - none good. 'Tin

whiskers are quite common in satellites manufactured prior to 1998, as well as in military grade missiles. Subsequent to 1998, 'tin' plated relay contacts have been replaced with non-growth materials.

joined together. The worst case situation involves a relay that separates the 'Main Spacecraft Processor' (the computer brain running the beast) from the software bank retaining software instructions in memory.

On 25 May at 19.17 NZT, something failed on B1. On Optus B1, a Hughes 601 spacecraft, there are two (2) processors; a main and a backup. Optus refuses to comment but SatFACTS understand the first (primary) processor quit prior to May 25, and it has been - *is* - running on backup.

PAS-4 had a similar problem (main processor - the gadget that controls how the bird 'flies' - failed) forcing them to run on the 'spare' backup, and to fix this problem before all PAS-4 services quit, PanAmSat rushed PAS-7 to co-exist at the same position (68.5E).

Our SatFACTS analysis of the May 25 failure runs like this. Optus noticed that the B1 spacecraft went to a 'safety mode' (transponders near the beacon frequency - 12. - are shut down automatically as a safety measure and the beacon switches to a 'National Beam' focus to improve its signal level at Optus control. This happened on May 23 (hang on - we'll explain the 25th, shortly) and a 'tin whisker' was apparently responsible for the semi-failure.

At this point they realised B1 was operating with something older than the current software so on May 25 a new version was uploaded (ground to satellite). Either the software, or a recurrence of the 'tin whisker' when they tried to implement the new software, caused B1 to lose earth orientation (it spun on its axis, something like a drunken sailor, trying to find 'home'). Optus described this event as an "orbital misadventure" which falls into the same category as a doctor who takes out a patient's appendix while conducting a kidney repair operation (a "medical misadventure").

It required 17 minutes for Optus TT&C to regain control of B1; it was a "spinning top" searching for "home". All B1 services of course quit functioning, including Sky New Zealand's 50+ TV (and radio) service channels. Analysis? The history of 'tin whisker' failures is mixed. At least 40% of all Hughes birds afflicted with 'tin whisker disease' will ultimately fail (example? I804 that headed into deep space when a main processor relay closed without earth instruction). And, they will do this with zero warning - there one minute, whole satellite gone the next. This is not a scenario that brings joy to the hearts of a commercial firm, such as Sky NZ, dependent as it is of B1 to reach more than 500,000 clients.

The other 60% experience either occasional problems (May 23 and 25, but subject to the speed and skills of the TT&C operators, correctable), or no recurrent problems. If you are Optus, you face a 'crap shoot'. Double sixes? 7??? Good luck, and, it will all be luck.

B1's most important customer is Sky NZ. A late May letter to Sky customers, written to advise them of an increase (2.5%) in rates, proudly announced that Sky would be on a 'new, more powerful satellite with many new channels of service' early in 2006. That would be D1, of course, when (or if) it launches successfully. If you were CEO of Sky and faced an uncertain world that already includes two 'tin whisker failures' in a period of 48 hours, how would you vote?

What are the options?

First, do nothing; crap shoot. *Hope* it does not happen again. Sixty percent of birds afflicted with tin whisker have survived the initial failure; think of a 'stroke'.

Second, request Optus to do a swap. Move B3 from 152E to B1's position at 160E, readjust the beams on B3 from this new position, and do a transponder swap; one way. All B1 traffic to B3 as it co-flies at 160E. Assuming this goes well, then B1 could be moved back to 152E and those users of B3

The B1 replacement schedule

B1 will be passing its 13 year predicted lifetime (*) on August 13, 2005. D1, a new satellite scheduled for launch late 2005/early 2006 (launch by Ariane) will add 11.7 - 12.25 to the present 12.25 - 12.75 GHz B1 downlink range, creating more transponders for Sky and other users of present-day B1.

New Zealand allows terrestrial transmitters in the 12.2-12.375z region (example: Sky Tower [not related to Sky TV], Auckland's Mirashee TV) but they are to be moved before Sky NZ (or TVNZ) requires frequencies below 12.375 GHz.

(* - Some sources claim B1 has a 15 year lifetime, others say 14 years. The small inconsistency is irrelevant as once 'tin-whisker' afflicted, the 'patient' has a 'cancer' which can flare up at any time without warning.)

at 152E before it was shut down to move could be restored. On B1 relocated to 152E. What this does is *reduce* the odds that Sky NZ, a major customer, will fail after being swapped to B3. What this does for Optus clients on presently 152E located B3 (such as UBI) is increase the odds they will experience a satellite failure. B1 at 152E is no more or less likely to fail than at 160E.

This scenario would have all present day B3 customers lose satellite service for how ever long it takes for B3 to shut down, move from 152E to 160E, be re-established at 160E, receive all present B1 traffic, and once there, shutting down B1 and then moving it back west to 152E where it could be restarted and reloaded with the former B3 traffic. Total elapsed time? Not less than 7, 15 is more logical, and it could be 20 days, if there are problems.

The winner here? Sky NZ. The losers? Everyone presently on B3 presently.

B1 is a Hughes HS 601 satellite, launched August 13, 1992. The 1582 kg package was forecast to have a 13 year life (which comes to August 13, 2005; May 23, 2005 is very close to that prediction).

B3 is (also) a Hughes HS 601 satellite, launched August 27, 1994, also forecast to have a 13 year life span. Yes, that means 2007. Go back to the first sentence, however: "...is a Hughes 601 satellite....". Which means, the same tin plated relays as I804, B1 and a myriad of others that have experienced failures

A B3 for B1 replacement is a bit like tossing gasoline on a fire. There is a predictable, almost anticipated, failure "just waiting to happen" here if the HS 601 series of past failures is a guide. The odds say, it is not "if", it is "when!".

Other options?

Some are pointing out Optus waited too long to get D1 into the order-delivery-launch stream; it should have been done a year earlier. But Foxtel intervened, interjecting their demands for "more transponder space from 156E" which resulted in D2 being reconfigured to suit the Foxtel requirements.

Sky NZ has now acknowledged their situation and issued the following release May 27:

"There were two brief interruptions to SKY's satellite service on Monday (23rd) and Wednesday (25) evenings. Following enquiries from SKY, the operator of the B1 satellite that is used by SKY, Optus Networks Pty

1/ 'Tin Whiskers'? Other than SatFACTS # 126 (February 2005), you will find a wealth of material on <http://nepp.nasa.gov/whisker/failures>



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 Input Frequency Level : -65 dBm - -25 dBm
 Noise Figure : 12 dB Max.
 Input Impedance : 75 ohm
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 Input Return Loss : -8 dBm
 Tuning Step Size : 125 KHz
 Demodulation : Shaped QPSK
 Symbol Rate : 2-45 Mbauds
 FEC Rates : 1/2, 2/3, 3/4, 5/6, 7/8, AUTO

LNB SECTION

Connector : F-Type - Loop-through
 Power : 400 mA Max.
 Polarization : Horizontal : DC 16-19 V
 Vertical : DC 11-14 V
 Band (Hi/Low) Selection : 22 KHz On/Off
 DiSEqC 1.2 USALS : 64 Universal LNB Control

SYSTEM RESOURCES

Processor : 32 bit (80 MHz)
 SDRAM : 8 Mbyte
 FLASH : 2 Mbyte
 EEPROM : 32 Kbyte

VIDEO SECTION

Decoding : MPEG-2 & MPEG-1 Compatible
 Compression Technique : Main Profile, Main level
 Format : PAL (NTSC)
 Frame Rate : 25 (30) Hz
 Aspect Ratio : 4:3, 16:9
 Active Pixel : 720 x 576, 720 x 480
 Output Impedance : 75 ohm
 Composite Output Level : 1Vp-p±0.07Vp-p (75 ohm load)
 S/N Unweighted : 57 dB Min.
 Frequency Response : 3 dB Max. (0.5-5.0 MHz)
 Data Rate : Up to 15 Mb/s

AUDIO SECTION

Compression Technique : MPEG-1, 2 Layer 1 & 2
 Sound Mode : Dual (Main/Sub), Stereo
 Frequency Response : 20 dB - 20 Hz to 20 KHz
 Output Impedance : 600 ohm unbalanced
 Total Harmonic Distortion : 1% Max. - 40 Hz ~ 20 KHz

CONNECTORS SECTION

A/V Out : RCA x 3
 RF Out : IEC Male
 Aerial In : IEC Female
 Service Port : RS-232C (115 Kbps Max.)

MODULATOR SECTION

Output: PAL G/I/K

CH : 21-65 UHF

POWER SUPPLY

AC 80-264 V, 47-63 Hz, 40W Max.

Power Consumption : 30W Max.

DIMENSIONS

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Limited, last night (26th) advised that the primary satellite control processor ('SCP') on the B1 satellite has failed, and the service is now being provided by the satellite's back up SCP.

"SKY is reviewing with Optus options to provide further backup for the services in the event that the backup SCP on B1 was also to fail. SKY has contracted to provide additional capacity on two new satellites from Optus, with the D1 satellite scheduled to be completed in early 2006 and the D2 satellite 18 months later".

Serious? You bet!

SatFACTS for February pointed out the high order of coincidence between a major 'solar event' (spewing of radiation from a sunspot eruption) and the failure of 1804.

Solar events are well known for their negative effects on geostationary satellites. Coincidence number 2 (or 15, depending upon how you are counting)? There was a major solar flare 'event' on May 21-22, almost perfectly 'timed' to hit B1 during its '12 noon' sun position.

NSS-5 (177E) and PanAmSat PAS-8 are options - but probably not for Sky NZ. Sky Australia has approximately 6,000 B1 sites, and then there is Globecast - all effected by the 'tin whisker' problem; *before* you even consider UBI. The satellite delivery world, as always, remains on a very thin, vulnerable 'string'.

Update: Sky NZ suggests a B3 to B1 transfer in mid-August.

Telephone delivery of video is coming on fast!

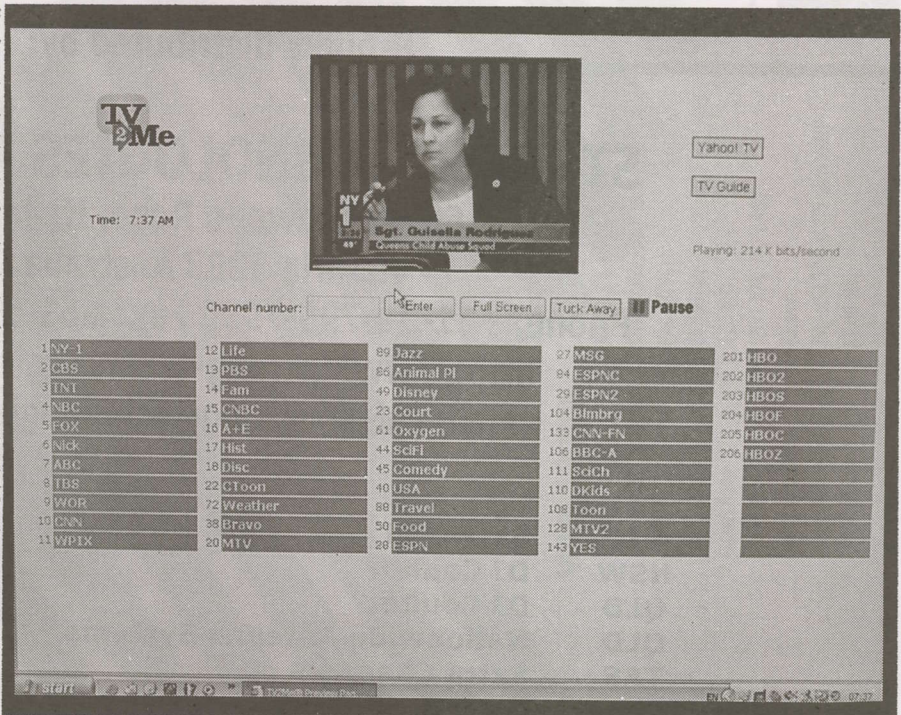
Ignore this development at your own peril

It sits in a seldom used corner of the SatFACTS office in rural northern New Zealand - about as far (by landline) from New York City (or Moscow) as one could be and still be on planet earth. It does not look like much - a standard PC equipped (as most now sold are) with Windows Media 9. But through the 'Jetstream' (tm of Telecom NZ) connection, it is only a 'mouse click away' from more than 60 channels of live, American television or 66 channels of live Russian television. Welcome to the 'real world' in mid 2005.

There are now more than 700 'public video streaming' sites (the 'TV2Me' is not such a site - it is only for subscribing private members, unfortunately) and several hundred more come on-line each month. It is the second fastest growing area of internet, second only to 'web casting radio'.

Some numbers. Broadband (video capable internet) grew by 750% (number of residences/businesses connected) during 2004. At the present rate of expansion, it will reach more homes by the end of 2006 than had a single telephone in 1990, world-wide. There are now more 'radio

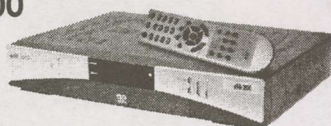
bloggers' (people who run private part-of -day or all-day 'radio stations') on internet than on *broadcast air* world-wide. That number is doubling each 12 months. Moreover, the latest newest generation of cell phones' (2.5G and 3G) allow anyone with a cell phone to 'tune-in' any of these internet 'stations'. In New South Wales, radio-via-internet is the fastest growing user connection of record; even faster than accessing porn! Major US radio stations, not available on internet, are on a crash course to get on 'the web' this year - more than 60% of all US radio stations will be available web-wide by the end of 2005. There is a very rapid escalation happening here; radio and



It is known by various names - 'Video streaming' is one. By any name, it is flat amazing - live, real time TV, through your 'broadbanded' telephone connection. And you can watch distant-TV while talking on the telephone! (TV2Me from New York City in our SF office)

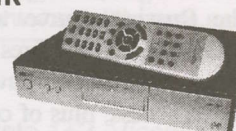
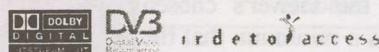
TV, formerly happy to be available 'over the air' or appended with satellite and cable are now rushing to also distribute on the web. A critical 'number' of homes is rapidly approaching - 50% or more of all homes in at least the 1st and 2nd world countries will be able (whether they do so or not) to select specific television stations, even specific television programming, via 'the web'. Broadcasters, radio and TV, can no longer ignore this huge swing in viewer habits. To stay competitive, they are being forced to match their competitor availability on 'the web'. Video, and audio, streaming is now a sure thing, much more than a 'flash in the pan' fad or trend that is likely to expire as rapidly as it developed.

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Digital **Satellite** Receiver with 2 x CI slots.
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Compact embedded IrDeto
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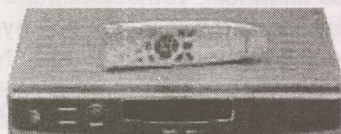
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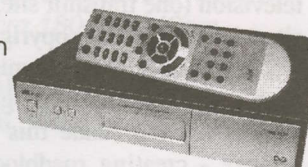
FTA Compact Digital **Terrestrial** Receiver
SD Standard Definition Digital Terrestrial Receiver with
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Homecast Australia site for terrestrial receivers is at <http://www.homecast.net.au>

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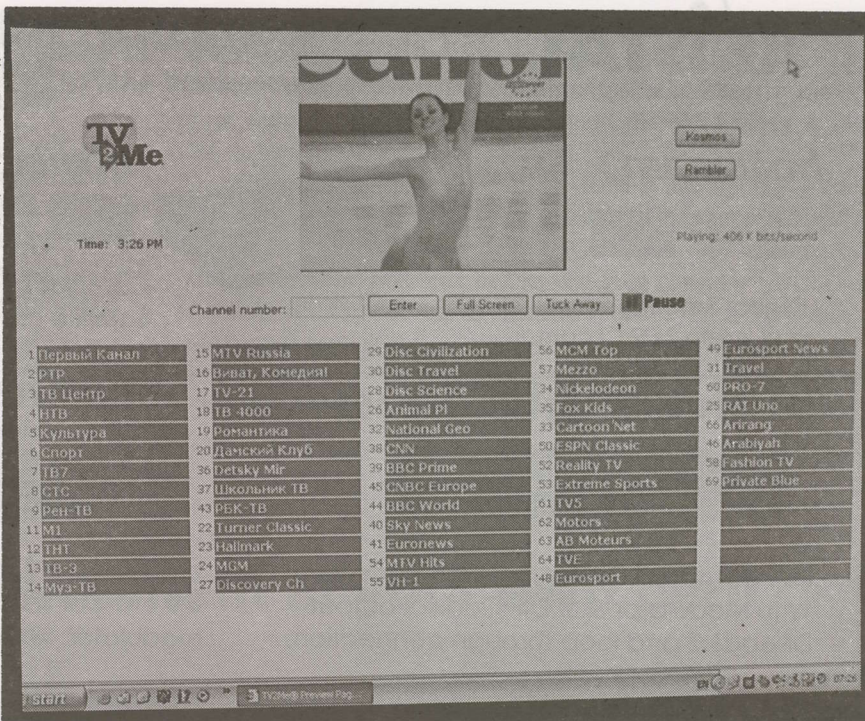
There are two, perhaps, three 'keys' here. The first relates to the 'bandwidth' available between any two points; a cable TV STB located in Moscow (illustration, right) must see something in excess of 300/350 kbps from the Russian source to the viewer's chosen location. This requires as a minimum that the viewing location have similar 'broadband' speed access, plus of course all of the links in between. Telephone and linking systems (some of the links are in part satellite) are on this case, rushing to make it possible for as many locations as quickly as possible. They are driven by revenue of course - downloading video from a distant site involves far more chargeable bandwidth than, say, Email.

The next key is access to the material. TV2Me's (right) patent-pending hardware and copyrighted software - certainly the leader in this technology world-wide - has been designed to prevent mis-use. It is one site (a cable served home in Moscow in our illustration) to a second site with only one viewer at the receive site. It is not broadcast television (one transmit site, unlimited receive sites) because of the copyright issue(s).

'Hollywood' (a euphemism for those who own or control programme material copyrights) has made this their number one priority - creating roadblocks for those who would send recorded or live material, whether from broadcast television, satellite, cable, tape, DVD or hard drive, to others - using either the web or in house networking. To make their wishes a matter of 'law', they convinced the (American) FCC (Federal Communications Commission) that the highly desirable upgrade from analogue to digital (TV) could not proceed unless 'safeguards' were in place to limit any 'shared use' of video material.

Accordingly, the FCC in 2004 announced an electronic data bit system called 'the broadcast flag' (BF) which was to have gone into effect on July 1 this year. The BF added a new layer of control to all video sources, by advising all broadcast flag equipped TV sets, recorders, PCs, web transfer systems that if the flag was present, the material could not be 'shared' (transferred out of the original receiver). Think of the flag as a lock which a video programmer (broadcaster or other) could 'close' on a programme by programme basis; 'locked flag' means no sharing. In January, several groups brought a federal court suit against the FCC claiming this was an illegal ruling (not an area where the FCC had such authority). Under the 2004 FCC ruling, all TV sets, recorders, PC video processing boards offered for sale in the United States from July 1 (2005) must have software/hardware for the flag built-in; or, they could not be sold. As you might imagine, thousands of different model TV sets, video recorders, PC tuner board were scheduled to be changed.

Lawyers appearing before the court argued, "This will turn the Federal Communications Commission into the Federal Computer Commission; do you know of any computer



This is Moscow (cable) television (from our SatFACTS office in New Zealand) - 66 channels, you select the one you wish from the menu on the PC screen. And it is available anyplace world-wide with a 350 kbps region 'broadband' (Jetstream in NZ) web connection. A similar connection installed in any country where 350 kbps is available acts as a 'base/home' station. A specially configured PC connects to a cable/satellite STB in the point-of-origin country and the user can be planet-wide and through a similar 350 kbps (or faster) web connection, tune-in, change channels, adjust parameters and even start and stop home-country recorders using the web. TV2Me remains the only 'DVD quality' hardware/software delivery package at this time but lower (reception) quality competitors are emerging (Sony, Slingshot et al). Meanwhile, quite separate from this 'private network' approach, more than 750 'video streaming' web sites are now functional and adding 100+ each month. *Television* is no longer limited to 'through the air' broadcasting'.

technology that does not at least touch the telecommunications infrastructure? The FCC would be asserting jurisdiction over all information technology."

In May the judges ruled, unanimously, "The broadcast flag regulations exceed the agency's delegated authority; the FCC has no authority to regulate consumer electronic devices that can be used for receipt of wire or radio communication when those devices are not engaged in the process of radio or wire transmission".

One judge asked the FCC lawyer, "You are out there in the whole world, regulating. *Are washing machines next?*"

The broadcast flag? Not yet.

Media watchers are however alarmed that 'the web' is creating ripples, growing into sizeable waves of change which nobody seems to quite yet understand. Here are some startling numbers, taken as gospel.

For nine weeks straight, movie box office gross receipts have been lower (26%) than comparable weeks in 2004. OK - so perhaps last year's movies were more attractive; nine weeks do not a panic start.

Newspapers, seemingly safely removed from the web to withstand the new change overtaking the world, are not exactly doing that well. Example: The prestigious Los

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Multi-CAS Single slot card reader
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2.4GHz A/V Sender (TR.2420)
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DiSEqC 2x1, 4x1 Switches 13/17V, 0/12V, 0/22KHz Switches

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2 way, 4 way, 6 way, 8 way

Mesh Antenna (Dynasat, PSI)

2.1m, 2.4m, 3m, 3.7m

Solid Antenna

65cm, 75cm, 90cm, 120cm,
150cm, 180cm, 240cm

Cables

RG-6, RG-11 / 100m, 305m

PC to TV Converter PX Brand

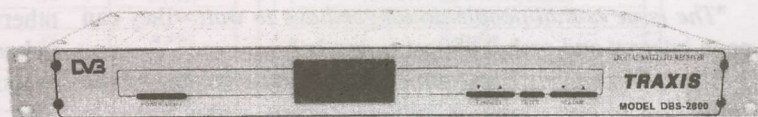


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PROFESSIONAL RACK MOUNT FTA MPEG-2 + 1 DIGITAL RECEIVER

Traxis DBS-2800 19" Rack Mount Digital Receiver - Great commercial receiver at a great price.



TRAXIS DBS-2800 19" rack mount digital receiver - ends cumbersome "consumer receiver" lash-ups in SMATV, CATV headends! Everything you would ask for in a FTA professional receiver: MPEG2 and MPEG-1 compatible, NTSC/PAL/SECAM baseband output, user settable 4:3 and 16:9 image ratios, QPSK for SCPC and MCPC, full DVB FEC rates. LNB(f) 13/18VDC (500 mA max) with short-circuit protection; DiSEqC 1.0. Mains 85 - 260VAC, 50 to 60 hertz, 21 watts maximum draw. Mono, dual mono and stereo audio recovery. L-band input 950-2150 MHz, -65 to -25 dBm, channel bandwidth 36 MHz. Data port 9 pin D-sub type using RS232 protocol, maximum data rate 57.6 Kbps. Mechanical: 480mm (wide), 245mm (deep), 41mm (high; 1 RU).

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WORLD SOURCE for DTH Broadcasters, Distributors and Dealers

Angeles Times is selling 13% fewer newspapers this month than last year in June. OK - maybe the newspaper needs a new editorial direction.

American network television - in the all important male 18 - 34 age group has lost 8% of these viewers in a year. Recorded music sales (CDs) is off by 11% from a year ago. Radio listening audiences, especially talk-back format stations, declined by 7% in both New York and Washington from a year ago.

Is something else 'up', to balance out this shift in mass communications? Satellite radio in the states is on a major expansion period, satellite and cable TV viewing are also up from a year ago.

And then there is 'the web'. One of the more interesting things about the technical capabilities of the web is that anytime one point (you) joins to another point, this connection can be traced, logged (a file made), and using readily available software someone - someplace - can even learn where you are, the make of your PC, the software you are using. All without you even being aware that this information is being captured. So it should not come as a surprise to learn that buried deeply on internet is a daily listing of 'The Top Ten Pirated TV Shows' - the programmes which people (1) copy, or, (2) 'relay' live, and, then send on to someone else - someplace. The list as of late May appears here. Australia makes the ratings by the way - 'Rove Live' is a popular show sent to Australians living overseas.

Television broadcast trade press is a buzz with stories, reports, opinions on not merely about what is happening but the speed with which it is growing. Some recent opinions stated:

"People are doing it more and more (using software such as BitTorrent) because they don't want to wait until a show released in the US today lumbers onto their distant television set through the local network six months or a year later."

"Several people I know say they would be agreeable to paying a fee such as \$5 to access today or yesterday's version without the long wait."

"The issue is that people no longer have to wait - they can go to internet and grab it almost instantly."

"Attending movies live is an economic issue created by the rising cost of everything. A national survey shows a couple attending a movie spends on average (US)\$70; \$22 each for the movie ticket, \$15 for soda and popcorn, parking fees and a babysitter. At the same time 42" Plasma screens have dropped under (US)\$2,000, and the same couple already owns a PC with Win Media 9 installed. Movies from the web? Why not!"

"It is not just TV that has changed. For (US)\$12 a month, using Sirius or XR satellite radio, consumers can access tens, hundreds of radio formats including live sports and news, without any commercials. Think of what that means to consumers - never ending entertainment and information without the annoyance of commercials!"

There is obviously a revolution, or serious evolution, here. And virtually all of this is before - prior to - the rollout of 2G and 3G radio (and TV!) to consumer cell phones. Fox News is already available, without subscription fees, to cell phone users equipped with the latest cell toys. CNN announced they, too, would be so available, in May. CNBC was there, first. The cell phone wave is barely a ripple at this time but it

Top Ten 'Web Pirated' TV Broadcast programmes

- #1 - 24
- #2 - Stargate Atlantis
- #3 - The Simpsons
- #4 - Enterprise
- #5 - Stargate SG-1
- #6 - The OC
- #7 - Smallville
- #8 - Desperate Housewives
- #9 - Battlestar Galactica
- #10 - Lost in Space

is gaining momentum with every month. It comes down to 'which format' will become the 'standard' - a serious question.

There are two presently available ways to link full video programming to the world. Make that three. There is TV2Me and its low grade copycats (such as Slingshot), neither of which 'broadcast' - both are 'private circuits' from one origin location to another (user chosen) reception location. Cross that off as 'not broadcasting' and not a present day 'copyright problem'.

Number two is DVB-H (digital video broadcasting - Handheld) and it has format competition from Qualcomm's MediaFlo (and others). DVB-H is independent of the cell phone network, it depends upon the terrestrial DVB-T transmissions to function, but using a brand new frequency group not yet universally available. But DVB-T sent to a handheld has new parameters, new symbol rates and FECs and Guard Intervals because the service is to a 'mobile' (moving) target. Normal DVB-T is configured for a stationary antenna at the receive site, and as soon as the receive antenna begins to move (a 'handheld') the service deteriorates. So inside of the DVB-H transmission they bury a subset of digital parameters to deliver a lower quality image to a 'moving target'. Nokia has led the way here, with Texas Instruments and others, to create a new set of software standards for this service. DVB-T/H broadcasters still have to adopt the standard but the incentive is they will be able to reach an audience, with the same DVB-T programming, not otherwise available. The future of DVB-H, as a standard, is unknown and the next year will be critical; it could all evaporate as a 'bad idea' by mid 2006. Or it could prove to be a hit.

The competition is DMB (Digital Multimedia Broadcasting), as reported in SatFACTS #129 (p. 18), recently initiated in Korea and Japan, using satellite delivery in the 'S' band. DMB does not require a satellite to function - it is compatible (with modifications) to the pre-existing world of terrestrial cell phones. This is where the 2/2.5/3G (G stands for generation) versions of the present cell phones enter the picture. Cell phone sites individually face 'bandwidth limitations' that will *today* restrict the number of simultaneous video users that can be accommodated. A site overloaded with video through-put will find it more difficult to find spectrum space for the more traditional phone (and data) users.

It is likely programming, not a technology war between DVB-H and DMB, will drive the success or ultimate failure of either or both of these new technologies. Which brings us back to how rapidly the TV broadcasters, including cable services inclusive of CNN, expedite their own expansion to a world-wide base. Consumers react to programming content, not technology.

SatFACTS Pacific/Asian MPEG-2 Digital Watch: 15 JUNE, 2005

Bird	Service	RF/IF &Polarity	# Program Channels	FEC	Msym
Thom3/78.5	SkyChAust	3695/1455H	up to 3	3/4	5(,000)
	ANT Greece	3672/1478H	1 TV	3/4	13(,333)
	Korean Central	3665/1485H	1	2/3	3(,367)
	TARBS ME mux	3640/1510H	12TV, 12 radio	2/3	28(,066)
	Ch Nepal	3626/1524V	1	3/4	15(,556)
	Mahar mux	3600/1550H	11TV, 1 rad	3/4	26(,667)
	SE asia Mux	3569/1581H	2+ TV	3/4	12(,500)
	RR Sat mux	3551/1600H	8TV, 10 radio	3/4	13(,333)
	JAIN TV	3538/1612V	1TV	3/4	3(,300)
	PTV1 +	3521/1629V	1TV, 1 radio	3/4	3(,333)
	FTA Mux	3520/1630H	12TV, 12 radio	3/4	29(,800)
	TVK Cambodia	3448/1702H	1TV	1/2	6(,312)
	TARBS/TH5	3480/1670H	12 TV+radio	2/3	26(,667)
	KCTV/Korea	3424/1726H	1TV	3/4	3(,366)
	Thai Global	3425/1725V	up to ??	2/3	27(,500)
InSat 2E/83	ETV mux	4005/1145V	6+ TV	3/4	27(,000)
	Hyd Dig 2E	3910/1240V	1	3/4	5(,000)
	Katradl TV	3699/1451V	1	3/4	3(,184)
	Indian mux	3643/1507V	3	3/4	19(,531)
	ETV Mux#2	3485/1665V	4+TV	3/4	27(,000)
	Sky Bangla	3430/1720V	1TV	3/4	6(,000)
NSS6/95E	Ant Pac (Greek)	11,104H-Australia	1 TV	3/4	2(,800)
As2/100.5E	Guangdong TV	4075/1075H	1TV + radio	3/4	6(,000)
	Euro Bouq	4000/1150H	6TV, 21r	3/4	28(,125)
	Reuters News	3905/1245H	1TV	3/4	4(,000)
	WorldNet	3880/1270H	4+28radio	1/2	20(,400)
	APTN Asia	3799/1351H	1	3/4	5(,632)
	Reuters/Sing.	3775/1375H	1	3/4	5(,631)
	APTN Asia#2	3705/1445H	1	3/4	4(,166)
	Macau MUX	4148/1002V	5TV	3/4	11(,850)
	Dubai MUX	4020/11430V	4+, radio	3/4	27(,500)
	Fashion TV	3796/1354V	1	3/4	2(,626)
	Trace TV	3792/1358V	1	3/4	2(,400)
	BYU-TV	3767/1383V	1 + 20 audio	1/2	6(,525)
	3-ch miniMUX	3752/1398V	up to 3	3/4	5(,640)
	Saudi TV1	3660/1490V	7+ tests	3/4	27(,500)
As3S/105.5E	CETV digital	3680/1470H	1+ TV	3/4	26(,670)
	Zee bouquet	3700/1450V	10TV	3/4	27(,500)
	Ch News Asia	3706/1444H	1TV (+)	3/4	6(,000)
	Azio TV	3716/1434H	1TV (+)	3/4	7(,000)
	3 ch MUX	3723/1427V	3TV	3/4	6(,500)
	SAB TV	3743/1407V	1TV	3/4	3(,300)
	AAJ-TV	3750/1400V	1TV	3/4	2(,820)
	Arlrang TV	3755/1395V	1	7/8	4(,418)
	New TV +	3760/1390H	up to 10TV	7/8	26(,000)
	Star TV	3780/1370V	7(+)+TV	3/4	28(,100)
	GXTV	3806/1344V	1TV + 3 radio	3/4	4(,420)
	Shaanxi TV	3813/1337V	1TV + 2 radio	3/4	4(,420)
	Anhui TV	3820/1330V	1TV + 2 radio	3/4	4(,420)
	Jiangsu TV	3827/1330V	1TV + 2 radio	3/4	4(,420)
	HLITV	3834/1316V	1TV	3/4	4(,420)
	Star TV	3840/1310H	7(+)+TV	7/8	26(,850)
	Star TV	3860/1290V	5(+)+TV	3/4	27(,500)
	Abu Dhabi MUX	3880/1270H	8+TV, 10Radio	3/4	27(,500)
	Dragon TV	3886/1264V	1 TV	3/4	4(,800)
	Shaanxi TV	3895/1255V	1TV + 6 radio	3/4	6(,813)
	Jilin TV	3914/1236V	1TV + 1 radio	3/4	4(,420)
	Star TV	3920/1230H	4+ TV	7/8	26(,850)
	Star TV	3940/1210V	6(+)+TV	7/8	26(,850)
	CNNI	3960/1190H	8(+)+TV	3/4	27(,500)
	Star TV	3980/1170V	6+TV	3/4	28(,100)
	Star TV	4000/1150H	8(+)+TV	7/8	26(,850)
	Sahara digital	4020/1130V	8TV	3/4	27(,250)
	Hubei TV	4035/1115H	1TV + 2 radio	3/4	4(,420)
	Tianjin TV	4046/1104V	1TV + radio	3/4	5(,950)
	Sichuan TV	4051/1099H	1TV + 1 radio	3/4	4(,420)
	Qinghai TV	4067/1083H	1TV + 2 radio	3/4	4(,420)
	Hunan TV	4082/1068H	1TV + 1 radio	3/4	4(,420)
	Pakistani TV	4091/1059V	5TV, 1 radio	3/4	13(,333)
	Sun TV	4095/1055H	1	3/4	5(,554)
	TVB8 Mux	4110/1040H	3	3/4	13(,650)
	Indus News	4115/1035V	1	3/4	3(,222)
	CCTV bqt	4129/1021H	4(+)+TV	3/4	13(,240)
	Zee Bqt #2	4140/1010V	8(+)+TV	3/4	27(,500)
	Henan TV	4166/984V	1TV + 4 radio	3/4	4(,420)
	Fujian TV	4180/970V	1TV + 2 radio	3/4	4(,420)
	Jiangxi TV	4187/963V	1TV + 2 radio	3/4	4(,420)
	Liaoning TV	4194/956V	1TV + 2 radio	3/4	4(,420)
Cak1/107.5	Indovision (S-band)	2,535, 2,565, 2,595, 2,625, 2,655	33(+)+TV	7/8	20(,000)
T'Kom/108E	IndoBqt	3460/1690H	up to 6	3/4	28(,000)
C2M/113E	TPI	4185/965V	1	3/4	6(,700)
	TVE Asia-Africa	4160/990H	1	3/4	5(,632)
	Anteve	4144/1006V	1	3/4	6(,510)
	Kabelvision Mux	4080/1070H	7+ TV	7/8	28(,125)
	Indostar	4074/1076V	1	3/4	6(,500)
	Satelindo	3935/1215H	1	3/4	6(,700)
	Bali TV	3926/1224H	1	3/4	4(,208)
	Indo MUX	3880/1270H	3+ TV	7/8	28(,121)

Receivers and Errata

CA (#1, 3); FTA audio #2 (dm)
Late July 04: room for more (FTA)
Global footprint; changes 02/03
CA + 23FTA(AITV, IRB3, Visjon Norge)
New 03/03; FTA
Thai + Indian services; FTA inc. Vibe TV, Sindh TV
MRTV3, MRTV (DM)
3TV, 5radio inc. Hellas TV Greece FTA
PIDs 4132/4133
frequency change
Aug 04: 5TV, 1 ra FTA (India)
FTA
3FTA: TV5, VTV4, ATN Bangla
Not 24 hour; FTA?
FTA (reaches SE Australia)
Several ETV now here; wide beam
SCPC, OK E. Aust. wide beam
SCPC, OK E. Aust wide beam
corrections 12/02
Several new ETV here; Asia beam
New - November 2002
(still) FTA 11-04; was 11.083H
July 04: FTA
FTA TV + radio; RAI PID changes April 2005
Was 3923H; sometimes FTA
FTA; multiple audio services V2360, A2320
Sometimes FTA; also 3895Vt
FTA & CA
FTA and CA - NASA reports included
5 chs TV, FTA, some tests
FTA, EuroSport PID change (1213/1313) June
FTA as of May 1, 2003
new here Dec 2004; Euro-French music videos
Increased coverage; great variety audio chs(03-05)
Sun-TV, Surya TV, KTV (FTA)
FTA MCPC; Yemen, MBC EUROsport tests
replaces analogue same freq, V33, A32
Now SECA 2 CA (10-04)
New September 2003; English + V1160, A1120
Parallel to 3640Hz analogue (due to cease)
Conax CA, 3 ch movie mux; Dec 2004
New April 2005; English, urdu
FTA SCPC; New PIDs V3601, A3606 June 2003
CA + FTA
NDS CA (Pace DVS211, Zenith)
Guangxi TV; was As2
Was As2
Was As2
Was As2
Was As2; HeiLong
NDS CA (Pace DVS211, Zenith)
NDS CA (Pace DVS211, Zenith)
New April 2004: link to Optus B3 Globecast
Shanghai
Apparently Mongolia; was As2
Was As2
Star Sports Asia (+), FTA NTSC; V514, A670 (10-04)
NDS CA as above; may NOT be operational
PowVu CA; new SR Apr 29; CNN radio FTA
NDS CA; Star News India FTA VPID 514, APID 648
NDS CA w/ 4(Chinese) FTA
New Sr September
Was As2
new December 2005
Was As2
Was As2
Was As2
new Sr, channels, Nov 2003
"History Channel" - SCPC, some English
MATV Chinese movies FTA +CA; new Sr 05-04
Hindi (+ "Plus")
moved from 4115
Now SECA 2 CA (10-04); 1 occ. FTA (varies)
Was As2
Was As2
Was As2
Was As2
NDS CA using RCA/Thomson,
Pace IRDs; 2,535 has 2 FTA
also 3586H/17,500, 3496H/19,615
FTA SCPC; NT/NC only
New August 2003
change from 4055V; FTA SCPC
also try 3500H, 27,000, 3/4; strong NZ
FTA (new 06-03); V2201, A2202
test card - only - reported
FTA, may not be active full time
FTA: Sr changes 01/03, errata

Bird	Service	RF/IF & Polarity	# Program Channels	FEC	Msym
	Brunei/Sing	3733/1417H	1TV	3/4	6,000
	SCTV	3726/1424V	1TV	3/4	6,620
	RCTI	3473/1677H	2	3/4	8,000
As4/122E	Aust DTH test	12.453V	2	3/4	20,000
	CCTV internal	4100/1050V	6	3/4	27,500
Jc3/128	Miracle Net	3996/1154V	3 up to 6	5/6	22,000
	Asian bgt	3960/1190V	up to 8	7/8	30,000
T18/138	Tests	3460/1690V	8	3/4	30,000
	LTV Laos	3804/1346V	1		
Jc2A 154	BYU-TV	3915/1245V	1+ 20 languages	3/4	4,166 (?)
MeasSs2	Astro Mux	11.602H	up to 17TV	3/4	41,500
	VTV MUX	11.522V	3 TV	3/4	9,766
B3/152	AuroraBiz	12.407V	4 TV, 10 radio	2/3	30,000
	UBI/Tests	12.425V	up to 13 TV + radio	3/4	22,500
	Occ feeds	12.445H	1TV	3/4	6,666
	Globecast 2	12.525V	13 TV, 8 radio	2/3	30,000
	Globecast (feeds)	12.550-555V	1TV	3/4 & 2/3	6,110/670
	Globecast	12.564V/T13	2+ TV	2/3	30,000
	UBI/Tests	12.613H/T14L	11+TV	3/4	22,500
	UBI/Tests	12.640H/T14U	11+TV	3/4	22,500
	Globecast 1	12.658V/T7	14TV, 15 radio	2/3	30,000
	UBI/Tests	12.674H/T15L	11+TV	3/4	22,500
	UBI/Tests	12.701H/T15U	11+TV	3/4	22,500
	WA ABC	12.702V	1 TV, 1 radio	7/8	14,288
	WA SBS	12.720V	4TV, 2 radio	5/6	12,600
	WA GWN/WIN	12.738V	2TV	7/8	14,295
C1/156E	Optus test bed	12.288V/T1L	6+ (ABC) TV	1/2	28,650
	Aurora	12.324V/T1U	4+ (ABC) TV	1/2	24,450
	Pay TV	12.365V/T2	11TV, 2 radio	3/4	27,800
	Aurora Home	12.407V/T3	5 TV, 13 radio	2/3	30,000
	Pay-TV	12.447V/T4	5TV, 4 data	3/4	27,800
	Pay TV (test)	12.487V/T5	3+ TV, data	3/4	27,800
	Aurora 2	12.527V/T6	7TV, 20 radio	3/4	30,000
	Pay-TV	12.567V/T7	10 TV	3/4	27,800
	Pay-TV	12.607V/T8	10 TV	3/4	27,800
	Pay-TV	12.647V/T9	10 TV	3/4	27,800
	Pay-TV tests	12.720V/T10	6+TV, data	3/4	27,800
	Austar	12.305H/T11	6TV, 24 data	3/4	30,000
	Pay-TV	12.358H/T12	10 TV	3/4	27,800
	Pay-TV	12.398H/T13	10 TV	3/4	27,800
	Pay-TV	12.438H/T14	6TV, 3 data	3/4	27,800
	Pay-TV	12.478H/T15	10 TV	3/4	27,800
	Pay-TV	12.518H/T16	10 TV	3/4	27,800
	Pay-TV	12.558H/T17	10 TV	3/4	27,800
	Pay TV	12.598H/T18	TV	3/4	27,800
	Pay-TV	12.638H/T19	10TV, 30 radio	3/4	27,800
	Pay TV	12.688H/T20	11TV	3/4	27,800
B1/160	7 Central DTV	12.354H	1TV	3/4	5,100
	Occ. feeds	12.380H	1 TV - *	3/4	6,111
	Occ. feeds	12.384V	1 TV - *	3/4	6,111
	Net 7 service	12.397H	1	3/4	7,200
	Imparja mux	12.379H	2TV + 8 radio	3/4	5,424
	7 digital feeds	12.397H	1TV	3/4	7,200
	Feeds to NZ	12.411V	1 TV	3/4	6,111
	SBS Mux	12.420H	3+ TV, 2+ radio	5/6	12,600
	TVNZ DTH	12.456V	5+TV	3/4	22,500
	TVNZ Tests	12.483V	up to 10TV	3/4	22,500
	Sky NZ	12.519/546V	7TV/7TV	3/4	22,500
	Sky NZ	12.581/608V	6TV/6TV	3/4	22,500
	Sky NZ	12.644/671V	9TV	3/4	22,500
	ABC HDTV	12.610H	5TV	7/8	14,3288
	Sky NZ	12.707/734V	8+TV	3/4	22,500
P8/166E	ABS-CBN	12.575H	4+TV, 4+ radio	2/3	13,845
	JEDI/TVB	12.686H	11+ TV	3/4	28,126
	ABC A-P	4180/970H	2TV, 2 radio	3/4	27,500
	Disney Pac	4140/1010H	typ 6 TV	5/6	28,125
	Taiwanese MUX	4080/1070H	12+ TV	5/6	30,000
	NHK Joho	4060/1090H	7TV, 1 radio	3/4	26,470
	FOX Mux	4040/1110V	up to 5TV	7/8	26,470
	NET +	4121/1029V	1 TV	3/4	4,774
	ESPN USA	4020/1130H	8+TV, data	3/4	26,470
	Discovery	3980/1170H	8 typ.	3/4	27,690
	CalBgt/Pas8	3940/1210H	up to 3+ FTA	7/8	27,690
	CNBC HK	3900/1250H	up to 7TV	3/4	27,500
	FilipinoMUX	3880/1270V	up to 8TV+radio	5/6	28,694
	TaiwanBgt	3860/1290H	12TV + 30 r	5/6	28,000
	CCTV Mux	3829/1321H	up to 4+ 1 radio	3/4	13,240
	TVBS-N	3836/1314V	1FTA, 4+ CA	3/4	22,000
	EMTV PNG	3808/1342V	1 + 2 radio	3/4	5,632
	CNNI	3780/1370H	3, up to 5 TV	3/4	25,000
	Discovery Asia	3764/1386V	Up to 6 TV	3/4	19,850
	MTV	3740/1410H	8	2/3	27,500
P2/169E	WA Mux Pv	12.281V	3+ TV, radio	2/3	27,500
	Arlang TV	12.401V	1TV	3/4	4,400
	ABS-CBN	12.575H	4TV, 2 radio	2/3	13,845
	Test mux	12.715H	6+ TV	2/3	30,000
	TARBS feeds	4090V/1060V	9TV + radio	3/4	21,000
	BBC SCPC	3986/1164H	1TV	1/2	5,700
	Middle East	3836/1314V	4 typ	3/4	13,331

Receivers and Errata
FTA : Singapore 23hrs, Brunei 1 hr, Brunei V1200
was on 4048V, New Caledonia, parts of Australia
FTA SCPC: Australia, New Caledonia, some English
Planned Aust DTH; VTV CA, other FTA (10-04)
Irdeto 2 + TVSN occ. FTA; also, 4020V
PowerVu; some FTA (Ch 1 & 3)
CA & FTA NTSC: Japan, Taiwan
also try 3660/3540VVI, Sr 30,000, 3/4, some FTA
VPID 512, APID 4112
Strong NZ & Australia; may now be 1/2, 6.525
Aust East beam - 3 FTA + 14 CA
WA only? Skew path, intended Asia
differs from 12.407 C1; tune ch FTA; NZ+Au
T11/lower testing late May 2005
Net 10, V8 racing; also 12.452H, same parameters
NZ + Au, FTA Mcript CA
occ feeds, NZ + Au; recently 12.553V
New Feb 05; TVN racing, TV Korea, Telepace
High performance beam; not NZ
High performance beam; not NZ
NZ + Au (Mcript, PowVu capable)
High performance beam; not NZ
High performance beam; not NZ
ABC WA tests, FTA
SBS, radio tests WA FTA
Irdeto V2 CA, tests (GWN, WIN)
Widescreen ABC service feeds x 6 + tests; 29 radio
CA, replaced Aurora T10 1 February 2005; 19 radio
Tests; SBS-NDS CA, others FTA when here
NZ (90cm) + Australia (Only svc left on NZ; C1)
Australia NA only (leakage) to Norfolk, New Cal
Australia NA only (leakage); 9-Net x 3 widescreen
Arrow radio (still here), tone FTA
Pay-per-view movies; CA
Pay-per-view movies; CA
Pay-per-view movies; CA
currently repeating 12.438Hz; TVSN FTA
Austar inter; Expo FTA
NDS CA + Mcript; CA
CA, subscriptions available Australia, Norfolk
Sky News active; 'Help x 2' FTA
CA, subscriptions avail Au, Nrlk; TVSN FTA
CA, subscriptions available Australia, Norfolk
"Home" CA, subscription available Australia, Nrlk
CA, subscriptions available Australia, Norfolk
CA, subscription available Australia, Norfolk
CA, subscription available Australia, Norfolk
Central beam; originally to feed Tasmania
* - plus 12.451H, 12.460H
* - plus 12.293V, 12.402V, 12.411V
Full schedule less commercials - links; may be CA
PIDs vary; also try 12.360, 12.370
occ. digital feeds; typ fla
Often NTSC; USA-Australia-NZ
Also 12.437H, 12.456H same params; HDTV+WS
FTA 7 channels (TVNZ x 4); +Maori_DW, CCTV9
Testing late Feb; possible FTA MUX coming?
NDS CA, subscription available NZ
NDS CA, subscription available NZ
NDS CA, subscription available NZ
also see 12.626, 643, 670, 688, & 706H
NDS CA, subscriptions available NZ
CA
June 2002-Irdeto-2 CA
Dateline west; also east PAS2, 3901V
PowVu CA
Tests - CA service announced
PowVu CA & FTA; subscription available
was PAS-2, previously 3992Vt; feeds FTA
NET25 + FTA; new PIDS April '03; reload
PowVu CA; ch 11 DCP-CCP bootloader; audio FTA
PowVu/CA (some audio FTA)
PowVu CA & FTA (EWIN + CBS + TBN +)
NDS CA (6 channels); one test card occ FTA
Mux FTA V1960, A1920 + radio FTA
Mixed FTA & CA; STC gone (CA)
PowVu FTA, replaces PAS-2 svc
Difficult because of CCTV cross pole
PowVu CA
PowerVu; some audio FTA
PowerVu, Asian MUX; new parameters Nov '03
8 MTV China FTA V289, A290; rest CA
PowVu CA, WIN, ABC NT, SBS; status unknown
Test - may not stay permanently
Temp FTA; subs Aust 011-800-2270-0722
initially with 6 NTSC colour bars
Occ FTA (Chile +); BIG power reduction Nov 03
BBC World moved here January 2005
Irdeto 2 CA - subscriptions avail; Strong Tech

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Bird	Service	RF/IF & Polarity	# Program Channels	FEC	Msym
(PAS2/169E)	Adventists.tv	4040/1010H	1	2/3	5(,900)
	Feeds	3868/1182H	1	2/3	6(,620)
	Feeds	3939/1211H	2 (byp NTSC)	2/3	6(,620)/7(,498)
	Cal PowVu	3901/1249H	up to 8	3/4	30(,800)
	HK bouquet	3850/1300H	up to 8	2/3	24(,900)
	Korean Bgt	3771/1379H	1	3/4	6(,510)
1804/174E	iPSTAR	12,619H	1	2/3	25(,220)
	Tests-NZ beam	12,646H	1	3/4	22(,418)
	RFO Poly	4027/1123R	1TV	3/4	4(,566)
1701/180E	TNTV	11,060&11,514V	9	3/4	30(,000)
	TVRFO	11,136V, 11,174V	6+TV, 3+ radio	3/4	23(,149)
	Canal+Sat	11,610H	16TV, 1 radio	3/4	30(,000)
	PBS	12,648HH	16TV possible	3/4	28(,066)
	TVNZ/BBC	4186/964RHC	1	3/4	5(,632)
	TVNZ	4178/972RHC	1	3/4	5(,632)
	AFRTS DTS	4175/975L	3 TV, 3 radio	2/3	3(,680)
	TVNZ/Aptn	4170/980RHC	1	3/4	5(,632)
	Fiji Sky Pacific	4095/1055LHC	6TV + future radio	3/4	16(,505)
	Fiji Sky Pacific	4055/1095LHC	6TV + future radio	3/4	16(,505)
	TVNZ feeds	4052/1098RHC	1	3/4	5(,632)
	TVNZ feeds	4044/1106R	1	3/4	5(,632)
	NZ Prime TV	4024/1126L	1	2/3	6(,876)
	NBC to 7 Oz	3960/1190R	1	7/8	6(,447)
	WorldNet	3886/1264R	1TV, 37 radio	3/4	25(,000)
	Icarana	3772/1378L	1	3/4	4(,566)
	NASA TV	3854/1296R	1 TV	3/4	2(,000)
	NASA TV2	3859/1291R	1 TV	3/4	2(,000)
	TVNZ	3846/1304R	1	3/4	5(,632)
	NBA (Barker) Ch	3803/1347R	1	3/4	6(,111)
	USA feeds	3749/1401R	4?	?	26(,400)
NSS-5/177W	Pacific IP Data	3763/1387R	none-data	3/4	27.5
	BYU-TV	4185/965R	1TV, 20+ audio	1/2	6(,525)
	iPSTAR Tests	12,691V	9+ TV	5/6	17(,600)
	Russian TV tests	12,774H	1 TV	3/4	3(,470)

Receivers and Errata

New December 2003; 24/7 "Hope Chs."
FTA (occ sport); also try 3863, 5r6, 100
FTA-typ NTSC-occ sport, live Shuttle
PowVu CA + FTA (includes BBC-W 05-05)
was 4148Vt; some FTA
Korean MUX, reload 12-04; new Sr
Tests, late May start; also 12,646H
Testing possible data links; June 2003
SE spot beam; was 4027LHC
east spot; 10TV + r each, vertical pol.
FTA 11.136 Tahitian beam, 11.174 west beam; 12/04
1+ FTA, MediaGd "2"; + 10.975 weaker
Testing Fiji region pay-TV (MDS) package (Oct '04)
DMV/NTL early vers. ooc feeds, typ ca
DMV/NTL early vers., ooc feeds, typ ca
DTS Direct to Sailors; audio previously FTA - gone
DMV/NTL early vers. ooc feeds, typically ca
Nagravision CA (> Feb 1, 2005) New PIDS
All now (including Fiji 1) CA; 7 Feb, 2005
DMV/NTL early vers. ooc feeds, typ ca
SCPC, mixed CA and FTA feeds
PowVu CA; Auckland net feeds
CA, Leitch encoded
New PIDS Dec 03 very strong NZ, Pacific
FTA SCPC; East Hemi Beam-Tahiti
24/7 live NASA - West Hemi beam (difficult!)
NASA supplemental
SCPC, mixed CA & FTA, feeds
NBA feeds - probably CA - new Nov 2003
16-QAM (not MPEG-2 compatible)
Data only but useful for dish alignment
Global beam - requires sizeable dish
CA Tests - Taiwan TV; data coming?? (NZ beam)
Tests - may not last (May 2005); NZ + beam

MPEG-2 DVB Receivers: (Data here believed accurate; we assume no responsibility for correctness!)

AV-COMM R3100. FTA, excellent sensitivity (review SF May 1998); new version Sept '99. AV-COMM P/L, 61-2-9939-4377.

AV-COMM Tiny Tot. FTA, 12Vdc operated, palm sized, low power consumption; review SF#120. Contact # above.

AV-COMM R3100(A). FTA, good sensitivity, ease of use exc (review SF May 2002). See above contact.

Coship 3188C. Review SF#107. Blind search FTA rcvr; works well. Available from Satlink NZ www.satlinknz.co.nz (ONLY KNOWN DISTRIBUTOR IN WORLD)

Divitone: "Left-handed" review SF#115; does "code key" entry. Available <http://www.satmax.ws>

eMTECH eM-100B (FTA), eM-200B (FTA + Cb2), eM210B (FTA + 2xCI + positioner); KanSat 61-7-5484 6246 (review SF#89)

Fortec Star Lifetime. Two versions, both blind search, code-key programmable, one X 2 CI. Review SF#119. www.aDigitalLife.com

Humax ICR1 5400 (Z). Embedded Irdeto + 2 CAM slots; initial units had NTSC glitch, now fixed. Widely available; new software avail 04-04, SF#76.

Humax IRC1 5410 (Z). Adaptable version capable of holding multi-CA systems (SF#98, 99). Widely available; original importer Sciteq (www.sciteq.com.au).

Hyundai-TV/COM. HSS100B/G (Pacific), HSS-100C (China) FTA. Different software versions; 2.26/2.27 good performers, 3.11 and those with Nokia tuners also good; later 5.0 not good. SATECH (V2.26)

Hyundai HSS700. FTA, PowerVu, SCPC/MCPC. Review SF March 1999. Kristal Electronics, 61-7-4788-8902.

Hyundai HSS800CI. FTA, Irdeto (with CAM) + other CA systems, PowerVu, NTSC. Kristal Electronics, above; review SF#63.

INNOVIA ID53088. Review SF#111. Blind search FTA receiver. High quality Irdeto; available Phoenix Technologies, and Satmax (<http://www.satmax.ws>).

ID Digital CI-24 Sensor. New August 2003; new lower noise tuner, extra sensitivity, CI Interface slot Irdeto 1 & 2, review SF#109. Sciteq 61-8-9409-6677.

MediaStar D7. FTA, preloaded w/ known services, exc. software (review SF July 1998). MediaStar Comm. 61-2-9618-5777

MediaStar D7.5. New (May 00) single chip FTA; review June 00 SF. MediaStar Comm. Int. 61-2-9618-5777

MediaStar D10. FTA and Irdeto embedded CA. VG receiver; see review SF#96, August 2002. Contacts immediately above.

MultiChoice (UEC) 660. Essentially same as Australian 660, not grey market contrary to reports. Sciteq tel 61-8-9306-3738

Nokia "d-box" (V1.7X). European, FTA, may only be German language, capable of D. Overflow software. SF#95, p. 14.

Nokia 9200/9500. When equipped with proper software, does Aurora, originally did pay-TV services provided software has been "patched" with "Sandra" or similar program. See SF#95, p. 14, SF#96 p. 15. SatWorld 61-3-9773-9270 (www.satworld.com.au)

Pace DGT400/DVR500. Originally Galaxy (Now Foxtel+Austar). Irdeto, some FTA with difficulty (Foxtel Australia 1300-360818). UECs replaced; Sept 18 (2003) "drop-dead" day; all were to have been "turned off" on that date (in fact, those with V1.13 CAMs may still be working; still does radio including CA, not TV).

Pace "Worldbox" (DSR-620 in NZ). Non-DVB compliant NDS CA including Sky NZ, no FTA; similar "Zenith" version (see SF#115, p. 15).

Phoenix 111, 222. PowVu capable, NTSC, graphics, ease of use. (111 review SF#57). SATECH (below)- 222, terminated

Phoenix 333. FTA SCPC, MCPC, analogue + dish mover. Detailed SF review SF#51. SATECH 61-3-9553-3399.

Pioneer TS4. Mediaguard CA (no FTA), embedded Msym, FEC, only for Canal+Satellite (AntenneCal ++687-43.81.56)

PowerVu (D9223, 9225, 9234). Non-DVB compliant MPEG-2 unless loaded with software through ESPN Boot Loader (see below). Primarily sold for proprietary CA (NHK, CMT etc). For service only - call Scientific Atlanta 61-2-9452-3388. For revision model D9850, see Scientific Atlanta (below).

PowTek. Blind Search Chinese sourced, field tests rate it highly. Source jason@aDigitalLife.com

Prosat 2102S. FTA SCPC/MCPC, NTSC/PAL, SCART + RCA. Sciteq 61-8-9306-3738.

SatCruiser DSR-101. FTA SCPC/MCPC, PowVu, NTSC/PAL. (Skyvision Australia 61-3-9888-7491, Telsat 64-6-356-2749); no longer available.)

SatCruiser DSR-201P. FTA SCPC/MCPC, PowVu, NTSC/PAL, analogue, positioner - (Skyvision - see above); no longer available.

SATWORK ST3618. Blind search FTA receiver. Fast search, problems, especially in "memory-filing" system; review SF#111. Available DMSi at tim@dmsiusa.com.

SATWORK ST3688. Blind search, 3000+ ch memory, multi-format RF modulator; improved version 3618. Review SF#113; available DMSi (above).

Scientific Atlanta D9223, D9234, D9225; Orig. PowerVu, superceded Dec 2003 by D9850. Commercial receiver, available TVO 61-2-9281-4481, John Martin

Strong Technologies SRT2620. SCPC, MCPC FTA, exc sensitivity, ease use, programming. Review SF#91 (ph. below).

Strong SRT 4600. SCPC, MCPC, PowerVu; exc graphics, ease of use, review SF#64. Strong Technologies 61-3-8795-7990.

Strong 4800. SCPC, MCPC, embedded Irdeto+ CAM slots, does code-key with additional software, Aurora. Strong Technologies 61-3-8795-7990.

Strong 4800 II. SCPC, MCPC CAM slots x2 for Aurora +, Zee, Canal +, code key with additional software. Strong Technologies (above); review SF#103.

Strong 4890. SCPC, MCPC, 30Gb PVR, 2 CAM slots, DiSeqC 1.0, 1.2 (review SF#84), does code key with additional software; Strong Technologies, # above.

UEC Atlas/Titan (1000). New July 2003, replacing DGT400 for Austar. No SCART, L-band loop; also available Rural Electronics 61-2-6361 3636.

UEC642. Designed for Aurora (Irdeto), approved by Optus; w/new software, C-band FTA; faulty P/S. Norsat 61-8-9451-8300.

UEC660. Upgraded UEC642, used by Sky Racing Aust, Foxtel, limited FTA. (Nationwide - 61-7-3252-2947); P/S problems.

UEC700/720. Single chip Irdeto built-in design for Foxtel; unfriendly for FTA. Power supply problems, seldom sold to consumers; propensity to fall off back of trucks.

Winersat DigiBox 200. C + Ku basic receiver but includes Teletext for NZ TVOne, 2 VBI. Satlink NZ, fax 64-9-814-9447; long term teletext problems (loses TT).

"X" Digital. When modified with "aftermarket" Internet software, does Aurora and other V-1 CA without card; review SF#119. Strong Technologies (61-3-8795-7990).

Accessories:

Aurora smart cards. MCRYPT (Irdeto V2) cards now available (Jan 2005), Sciteq 61-8-9409-6677.

PowerVu Software Upgrade: PAS-8, 4020/1130Hz, Sr 26.470, 3/4; pgm ch 11 and follow instructions (do not leave early!)

PowerVu (Pacific) repair service: Cable & Sat Svcs. Darius West. 61-2-9792-1421 (Email darius@cases.net.au)

WITH THE OBSERVERS

Launches: June 23 Russian Express AM3 to 140E; 12 Ku, 16C. June 25 Indonesian Telekom 2 to 118E; 24 C band (replaces B4).

ApStar 6/134E: "Ku band carriers noted northern Queensland include 12.275, 12.355, 12.475, 12.515, 12.555, 12.595, 12.635, 12.675 and 12.725 - all V". (Calvin) (Editor's note: ApStar 1A C-band traffic could appear on '6' at any time; 23 SCPC/MCPC. Amongst more interesting (virtually all are for mainland China) FTA: 3849H (CCTV, Sr27.500, 3/4 - 7 programmes), 4058V (Golden Eagle Cartoon Net, Sr 4.420, 3/4), 4065V (ToonMax TV, Sr 4.420, 3/4), 4120H (XinJiang TV, Sr 27.500, 3/4 - 6 channels with last 3 in Cryptoworks), and for fans of nostalgia - 3860V (CCTV 1), 3960H (Guizhou TV), 3980V (CETV-1), 4000H (Yunnan TV), 4020V (Zhe-Jiang Satellite TV), and 4100V (Shandong TV) - all in good old fashioned analogue, audio 6.6 (that's megahertz!).)

AsiaSat 3S/105.5E: "Bluckiss TV 3760H left air 1 June". (B Richards. SA) (Editor's note: See p. 2, here)

NSS-5/177W: "Pacific IP (data) has moved to 3763R, Sr 27.500 (was 3745R, Sr 44.995)". (Stanley)

Optus B1/160E: "Sports feed FTA 12.357V, Sr 6.620, 3/4 V=308, A=257; 12.687V, Sr 6.670, 3/4 Globecast test card; 12.696V, Sr 6.670, 3/4 Globecast test card." (B. Richards, SA)

Optus B3/152E: "UBI's new T11/lower (12.425V, Sr 22.500, 3/4) MCPC testing as of 4 June was without loading tables. However a new FTA (V=512, A=640) Ch labelled 'afn' appears to be a California based Armenian or Persian service also promoting Radio Amoo (www.RadioAmoo.com)". (IF, Qld.) "T13/12.563V, Sr 30.000, 2/3 has new radio Ch (Radio Polska). On same MCPC, Italian 'Telepace' service often carries live or taped coverage of new Pope, and is of much better than normal video quality". (AI, NSW) "Feeds found on B3 of late include: T11/upper, a non-MPEG-2 package around 20 MHz in width, unknown as to content or source; T5/12.555V, TVN, Sr 6.666, 3/4 labelled 'GCAST1'. (NS, NSW) "T5/12.525V, Sr 30.000, 2/3 RTR (Russia) which began 1 April went Mcrypt 31 May. On T7/12.657V, Sr 30.000, 2/3 a channel labelled 'NTV' is actually Russian HTBamerica; was FTA, also CA (Mcrypt) 31 May; perhaps there is a 'subscription package' on offer here?" (IF, Qld) "IPTR (T5) is Iranian Pacific TV, airing Los Angeles based

AT PRESS DEADLINE

NZLSAT's application to launch multi-band satellite to 158E, the only applicant after government call for 'bids', likely to be formally approved before 1 July. John Allen, Director operations and engineering for NZ CanWest TV writes, "a combination of terrestrial and satellite platforms delivers the most effective and robust digital solution (for NZ's transition to digital)."

Due to the position of the
Sun, we are experiencing a
short break in transmission on
this channel.
Normal programming will return
in a couple of minutes.

We apologise for
any inconvenience.

Segue? Our sun may indeed be responsible for 'solar outage' periods each March and September but given the current heightened state of 'solar cycle' activity, unfortunately it is also tossing off mega-bombs of radiation that is eating our satellites! (Et tu, B1???)

'NITV' with advertising from Southern California; during May it was FTA for several days, reverting to CA 30 May". (AI, NSW) "Globecast's T13/12.563H, Sr 30.000, 2/3 (on National B - does not reach NZ) currently has following: 1) TVN racing, 2) TVK (Korea including KBS World), 3) TV Polonia, 4) MBC (South Korea), 5) Setanta Sport (added 17 May), 6) Telepace (Italian, religious-Catholic, on occasion includes US and UK movies from 30s and 40s, dubbed into Italian) plus radio 1) Radio Polska (added 3 June)." (NS, NSW)

Optus C1/156E: "TVN feed, 12.686V, Sr 6.666, 3/4 feed labelled 'Globecast'. (NS, NSW) "T18/12.598H, 'BBC' label has changed to 'BBC World' suggesting there may be an additional BBC service coming?" (IF, Qld) "T1/lower, 12.288V, Sr 28.650, 3/4 (Foxtel's ABCs); radio channel labelled 'DIG Country' still without PIDs which means Foxtel subscribers are missing out on this country/western service channel - although terrestrial DVB-T STBs provide it. Two others, 'dig and 'dig jazz', are also there". (AI, NSW) "Four SMA (Satellite Music Australia) business radio channels added in mid-May. On T3/12.407V, Sr 30.000, 2/3 A=352, SMA BUS8 (Mcrypt only) with EPG of 'CML3'; On

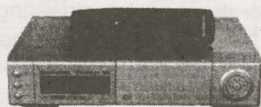
WITH THE OBSERVERS: Reports of new programmers, changes in established programming sources are encouraged from readers throughout the Pacific and Asian regions. Information shared here is an important tool in our ever expanding satellite TV universe. **Photos of yourself, your equipment** or off-air photos taken from your TV screen are welcomed. TV screen photos: If PAL or SECAM, set camera to f3.5-f5 at 1/15th second with ASA 100 film; for NTSC, change shutter speed to 1/30th. Use no flash, set camera on tripod or hold steady. Alternately submit any VHS speed, format reception directly to SatFACTS and we will photograph for you. Deadline for July 15th issue: July 4th by mail or 5PM NZT July 5th if by fax to 64-9-406-1083 or Email skyking@clear.net.nz.

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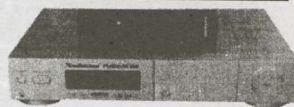
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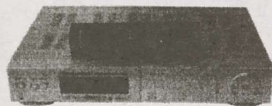


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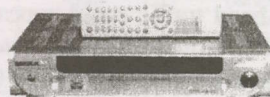


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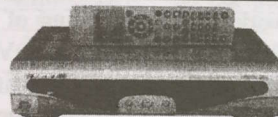
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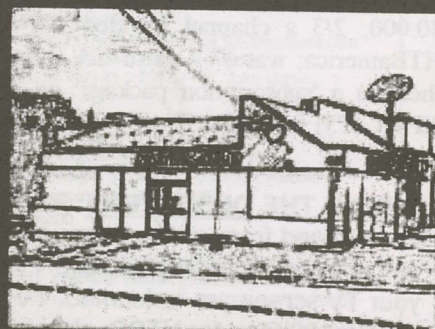
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These firms are available to do contract dish installs

Fiji Islands

C.B. Communications, **Sigatoka** (Ph6520227; cbcom@connect.com.fj)
Safeway Electronics Ltd, **Suva + Lautoka + all islands** (Ph 3395300/6666822; safeway@connect.com.fj)
SATSHEK Communications, **Suva** (Ph3307933; parmarbros@connect.com.fj)

New Zealand:

Tauranga TV Svcs Ltd, western **Bay of Plenty** (ethnic Ku packages) (Ph 07 578 7276; dave-tts@clear.net.nz)
Raycom, **Coromandel Peninsula/Waihi/Tairua** (B1 FTA) (Ph 07 864 8083; raycom@slingshot.co.nz)
Frontline Electronics, **Mosgiel** region (ethnic Ku packages) (Ph 03 489 4001)
Advanced Aerials, **Napier/Hawkes Bay**, comcls (Ph06835 6618/021 272 6618; advanceaerials@xtra.co.nz)
Nelson TV & Video Svcs, all **Nelson Bays** (Ph 03 548 0304; ntv@tasman.net)
Rexels AV Electronics Ltd, **Palmerston N, Manawatu, Hawke's Bay, Wanganui** (Ph 06 357 6186; rblair@infogen.net.nz)
John Stewart, **southland** including Otago (john.s@tritec.co.nz)
The Antenna Man, **Taranaki** (Ph 06 758 1633; antenna.man@xtra.co.nz)
Quality Pics, entire **Waikaito** region (Ph 0800 007 667; maxnkay@xtra.co.nz)
Smartzone, **Wellington-Wairarapa-Palmerston N** (C+Ku) (Ph 029 289 6333; info@smartzonesystems.co.nz)
Homestead HiTech, **Wellington, Masterton-Levin** (PAS-2, B1, B3) fitzgera@ihug.co.nz)

New South Wales:

Woolgoola Antenna Service, **Coffs Harbour** (50km radius) (Ph 0266561889; woopaerials@iprimus.com.au)
Town & Country Antennas, 60km radius **Murwillumbra/Tweeds Heads** (Ph 02 6672 8595)
Newcastle Satellite, **Newcastle + Lwr Hunter Vly** (Ph 0249614449; satellites@netcentral.com.au)
Home Satellite TV, 40km radius **Port Macquarie** (Ph 02 6584 3838; kazbah25@optusnet.com.au)
Goodcom Communications P/L, 100km radius of **Walcha** (Ph 02 6777 1044; goodcom@northnet.com.au)

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ALLSAT TV, **Darwin and NT**; (Ph 041 863 3720; allsat.tv@pacific.net.au)

Queensland:

Cape York Electronics, **Cooktown and "the cape"** (started 1970s) (Ph 07 40 695 252; cyeectn@tpg.com.au)
Phil's Antenna Systems, 100km radius of **Hervey Bay** (C+Ku since 1996). (Ph 0741 256 273)
Rick Dalton TV & Satellite, 100km of **Kawana Waters** (C + Ku). (Ph 07 5493 4343; rick@antectv.com.au)
Teleworks, 100km of **Cairns** (C + Ku). (Ph 0412 84115; rajvrm@aol.com)
Videotronics Mackay, **Mackay/Whitsundays** radius 200km. (Ph 07 495 575 052; sales@videotronics.com.au)

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Central Eyre Comms, **Arno Bay-Eyre Penins.** (Ph 08 8628 0203; centraleyrecomms@ozemail.com.au)

Tasmania:

.65 Electronics, **Launceston and Northern Tasmania** (Ph 03 63 330820; sales@65group.com)

Victoria:

Riviera Satellite Antenna Svcs, 100km radius **Bairnsdale** (Ph 03 5152 4884; gillhooleystv@net-tech.com.au)
Leden Communications, (100km radius) **Glengarry** (Ph 0427 745105; leden@netspace.net.au)
Geoff's Communications, 60km radius **Korumburra** (Ph 0408 582010; gwyyhoon@tpg.com.au)
Foreign Satellite TVP/L, **Melbourne (region)** C+Ku since 1995 (Ph 040445509; joe12@dodo.com.au)
H and J Instruments, (100km radius) **Wodonga**, C and Ku since 1970 (Ph 02 6027 1574) (*)

Solomon Islands

Satellite Solutions, **Honiara + all Solomon Islands** (since 1994) (Ph 677 25589; satsol@solomon.com.sb)

Thailand:

JSAT tv/Jon Clarke, **ex-pat community - nationwide** (Ph +661 513 5418; info@jsat.tv)

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T6/12.527V, Sr 30.000, 3/4 A=325 is 'SMA BUS5' (originally Irdeto V1, now Mcrypt only) with EPG CML2 and 'Left Chan National/Right Chan local'; also T6 A=341, 'SMA BUS6', FTA, EPG 'World Audio 1' and 'Left Chan Region 3/ Right Chan Region 2'; And also T6, A=341, 'SMA BUS7', FTA, EPG 'World Audio 2' and 'Left Chan Region 3/ Right Chan Region 4'. All four also have teletext PIDs. SMA BUS6 and 7 have been airing something identifying as, 'Radio 2, your new commercial broadcast network'. (IF, Qld) "T11/12.305H, Sr 30.000, 3/4 (Austar's interactive Tr) added CA radio service (A=642); label is 'air'. (HE, NSW) "T14/12.438H, Sr 27.800, 3/4 at V=1201 labels 'Test', no

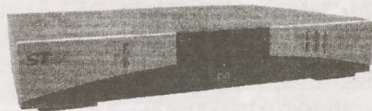
audio PID. T19/12.638H, Sr 27.800, 3/3 at V=1131 loads four video channels ('ABC', 'Channel 7', 'Channel 9', 'Channel 10') but with low data rate of 0.499 Mbit/s - at best a test card." (IF, Qld)

PanAmSat PAS-2/169E: "Six channels of colour bars 12.715H, Sr 30.000, 2/3, FTA". (B. Richards, SA) "BBC World started, perhaps testing, California Bouquet 3901H, Sr 30.800, 3/4 V=1360, A=1320". (PB, NZ) "3980H, Sr 4.500, 3/4, FTA feed of 'Love Island, fed to UK TV ttv1; V=1160, A=1120; 4054H, Sr 5.700, 3/4, V=1160, A=1120, FTA sport

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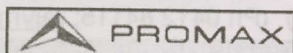
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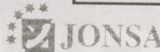
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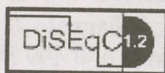
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'Doing a Boulos' - continues from page 7

19 May: Cine Latino, Telefe (previously missing Latino channels) appear but with frequent pixellations and 'technical difficulty' graphic flashing in and out. Telefe promotes viewing hours for a wide range of areas (New York, LA, Sydney) including Auckland. Has UBI told Telefe they reach NZ? No, of course not - that would be dishonest!

22 May: 'PANO TV' begins Sunday 'community TV for Arabic-Australians. SCTV (Ch 44) also airs Christian religious programming for Arabic-Australians.

26 May: UBI began testing 5th transponder (lower half T11, 12.425H, Sr 22.500, 3/4) using 11 TV channels from T14 upper (their chs 34 to 44). Initially FTA, DVB2000 indicates operator is 'SES'.

27 May: Two Balkan channels with "court dispute" graphic have changed: Ch 34 reads "K15, best of Macedonian TV coming soon exclusively to UBI" and Ch 36, "Best TV from Serbia, Macedonia, Croatia, Bosnia - soon exclusively on UBI". Ch 32, airing Bulgarian 'Planeta' (music Ch) has new label, 'PLAN'. MAD (Greek music Ch) moved from 29 to 31 while 29 is relabelled PTUK and became CA. The 'real name' for this service is 'Power Turk Music TV'.

28 May: And someone worked this out changing label from PTUK as added on 28th to more correct 'PTRK'.

31 May: New MCPC T11/lower changes from 11 TV to 13TV + 13 radio. Graphic appearing TV channels 1 - 11 simply noted, "New premium quality channel coming soon. Exclusive to UBI World TV". Ch 12 was green-tinted colour bar, Ch 13 grey screen running at constant 1.8 Mbit/s; Radio channels not in use, No NIT nor encryption.

1 June: Latino package went CA this date including Spain's TVE which had previously been FTA from UBI launch. T11/lower switched from National B to High Performance beam with NIT of 12.425H, 22.500, 3/4. However, the satellite identity is given as 1660 (should be 1520) and DVB2000 shows network label as TARBS (!) although a UEC shows operator to be UBI. All 13 radio and TV channels now running (last 2 TV appear to be static), radio has labels from long-ago (ex) TARBS services.

2 June: T11/lower channels have dropped their loading tables but continue to run.

feeds." (B. Richards, SA) "World Media MUX now 3.833V, Sr 11.000". (Mark)

Telstar 18/138E: "The CA versus FTA content changes almost daily but these have been seen FTA recently: On 3460 (Sr 30.000, 3/4) FTA's include AFA TV, CTI, CTV, CTS, ETTV Drama, ETTV News, ETTV Variety, FTV, Hollywood Movies, LS Movie, Yoyo TV. On 3660 (Sr 30.000, 3/4) Asia Plus, Asia Travel, CCTV-4, FTVN, Life TV, Phoenix Chinese, Phoenix Info and TVBSN." (BK, Qld) "New MUX I-Sky-Net 3540V, Sr 30.000, 3/4 parallel content to 3460V, FTA testing". (Arnold)

Thaicom/ 78.5E: "Vibe TV testing 3600H, Sr 26.667, 3/4 V=522, A=750, FTA. Visjon Norge, 3640H, Sr 28.066, 3/4 V=2911, A=2912 new here, FTA. 3600, Sr 26.667, 3/4 V=524, A=5634, Sindh TV has begun, FTA." (B. Richards, SA)

Soapbox: Editor's note: There is a business opportunity in New Zealand. For several years this nation of 4 million folks has been without a stocking distributor handling TVRO (C

and Ku band) hardware. The only professional antenna installation firm (from home style dishes to those 18 metres in size), Pacific Antennas (2000) Ltd., has carried on as a lone participant in a field boasting more than a dozen capable professionals as recently as a decade ago. Now Pacific is closing down, placing inventoried hardware into a 'clearance sale' (see p. 25, here) mode. The tiny handful of professionals remaining in this business are all approaching retirement, and none are interested in being stocking distributors for the hardware which from time to time one needs "yesterday". Surely in our readership there is someone with an inclination to tackle this challenge, provide professional dish installation and maintenance work throughout the country, arrange for in-country stocking of vital C and Ku band hardware. Interested? Contact Brian Dillon at 0274 789 160! "Globecast recently added KISS-FM to T5 (12.525V, Sr 30.000, 2/3). On 1 June while sitting on this service Ch the UEC receiver suddenly dumped T5 from memory and reloaded T7 (12.657V, Sr 30.000, 2/3), obviously on instructions from the

Globecast uplink control centre. Checking with DVB2000, they had replaced NIT from T5 with NIT for T7. Weird! (it reverted to proper NITing June 2)" (IF, Qld) "Mike Boulos visited Fiji, stating, 'We are here to compliment what Fiji TV is doing. We have the best programming and sports in the world. 27 nations entrust us with delivery of their television services. Programming is on the shelf available for purchase; we can buy whatever we wish. I have enemies - and it's the big media moguls who are out to get me. Sure, there are claims against me for my days in the computer business but these are vigorously defended and in time I will be found not guilty.'" (EL, Fiji) "France sold more than 300,000 DVB-T STBs in first 30 days of terrestrial digital availability (14 channels FTA). Separately, a French court ruled DVDs contained 'copy protection' are illegal in that country (Philippe, Paris) "Estimates of how many USA homes rely upon aerial reception varies widely between 13 and 31% - depending upon source (those that do not have cable, satellite or both). No studies have been done to measure homes with cable or satellite, still retaining one or more (bedroom, kitchen, kid's room etc.) set connected to aerial. That number would most certainly be much higher and all will lose reception on analogue-only sets when transition - still uncertain - finally takes place." (RJ, New York) "Don't mess with Hollywood copyright? Quietly, no fanfare, US President GW Bush has signed into law legislation that allows 'sanitising of movies on DVD'. Bush, a born again Christian, agreed to bill which allows someone other than copyright owners independent authority to take a DVD movie master and go through eliminating or 'correcting' scenes and language which might in some way offend any portion of the viewing audience. A Mormon-owned Utah firm (ClearPlay) was promoting the bill." (Fred W, Salt Lake City)

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V	15B	16B	17B	18B	19B	19B	2A	3A	4A	5A	6A	7A	8A	9A	10A	11A	12A	13A	14A
V	3420	3460	3500	3540	3590	3638.5	3675.5	3732	3780	3820	3860	3900	3940	3980	4020	4060	4100	4140	4180

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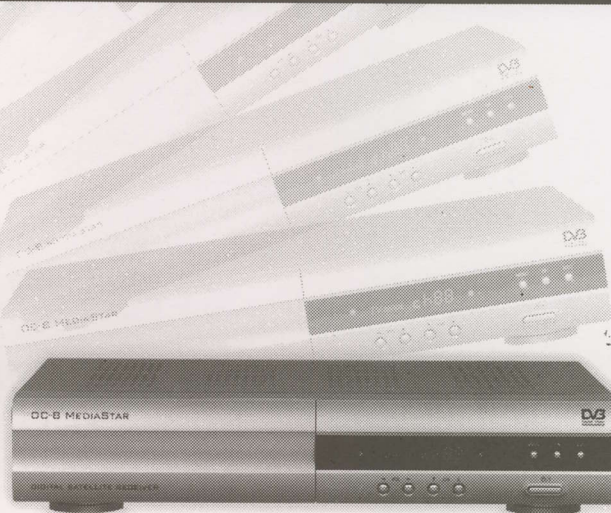
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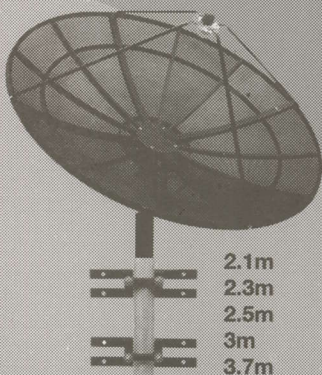
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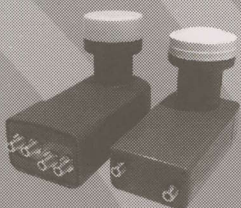


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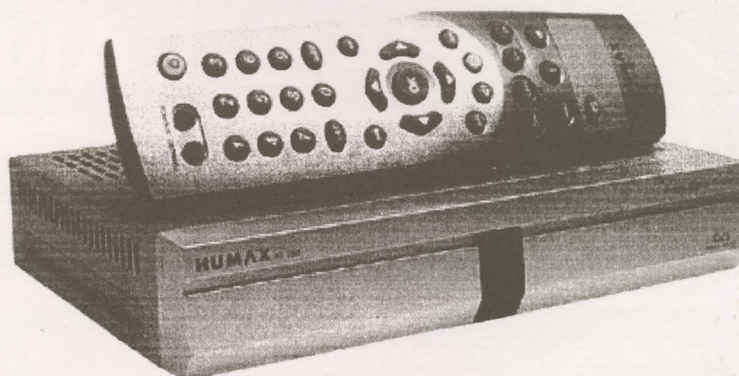
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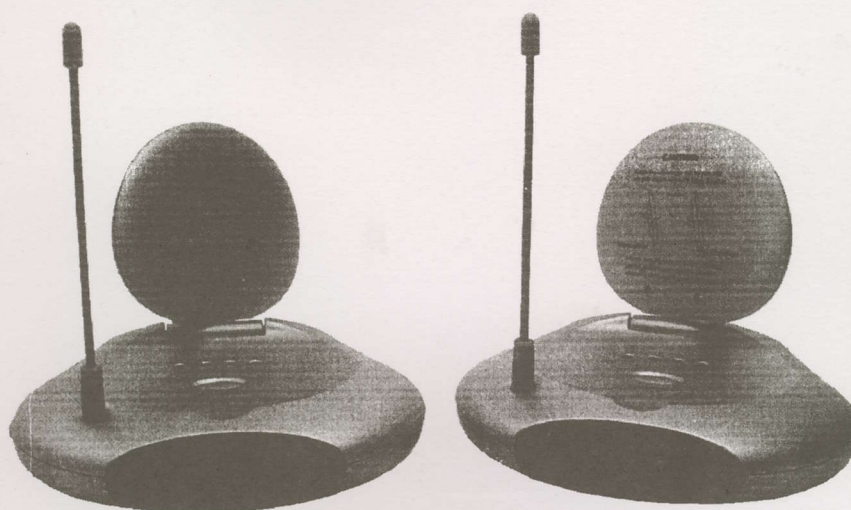


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